

# INSIDE DOPE

Learn to live and laugh—  
Thus delay your epitaph

By **GEORGE F. TAUBENECK**

Stories of the Week  
Personal Want-Ad  
Philosophy  
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Canst Thou Beat It?

## Stories of the Week

All-expense-tours on the cuff have been quite successful. The principle is like buying a refrigerator or freezer "on time"—enjoy it now, pay for it later.

To a promoter of delayed-payment trips came an unsolicited and unexpected testimonial:

"Because of a death in the family we are grateful to you. We couldn't have paid the funeral expenses and enjoyed a wonderful holiday at the same time without your charge-account plan."

Pal Joey carried his out-like-a-light roommate upstairs, undressed him, and put him to bed. Next morning, late, the roommate was properly grateful.

"But why didn't you take out my glass eye?" he complained. "you know it pains me if it's left in the socket all night."

"Honestly, Buster," alibied Pal Joey, "they both looked so glassy I feared I might remove the good one."

## Personal Want-Ad

This is no joke. Honest. "Dope" wants something.

**WANTED:** Mercury record 5253, "Keep a Twinkle In Your Eye," sung by Ann Vincent several years ago.

"Inside Dope" will pay \$5 for the first authentic recording of this dilly ditty received *unbroken*, and \$3.00 each for the next six such out-of-date records submitted.

## Philosophy

"Know you what it is to be a child?"

"It is to be something very different from the man of today. It is to have a spirit yet streaming from the waters of baptism; it is to believe in love, to believe in loveliness, to believe in belief; it is to be so little that the elves can reach to whisper in your ear; it is to turn pumpkins into coaches, and mice into horses, lowness into loftiness, and nothing into everything; for each child has its fairy godmother in its soul."—FRANCIS THOMPSON.

We were born to be an object of astonishment to posterity.—AES-CHINES, 389-314 B.C.

A man should never be ashamed to own he has been in the wrong, which is but saying, in other words, that he is wiser today than he was yesterday.—ALEXANDER POPE.


## Gags of the Week

Your temper is the only thing that doesn't get better with use.

Admiration is polite recognition of another's resemblance to ourselves.

With tuition going up at some colleges, education is almost as expensive as ignorance.—Scripps-Howard columnists.

If all the crutches were laid end (Concluded on Page 6, Col. 1)



# AIR CONDITIONING & REFRIGERATION News

THE NEWSPAPER OF THE INDUSTRY

October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879. Registered U. S. Patent Office. Copyright 1954, by Business News Publishing Co.

## Carrier Offers Fuel Purchase of Room Cooler Now

UTICA, N. Y.—The AIR Div. of Utica Oil Heating Corp. promoted air conditioning installation at the start of the winter season by offering winter fuel oil as a bonus with purchase of window-type air conditioners.

The firm promoted the deal with a newspaper advertisement featuring the theme: "Don't wait. Buy air conditioning now. Get your winter fuel oil absolutely free." The offer applied to all air conditioners sold during November and December.

Here was the deal offered: One-third-hp. window air conditioner at \$259, 450 gals. of fuel oil free; 1/2-hp. air conditioner at \$329, 600 gals. of fuel oil free; 3/4-hp. air conditioner at \$399, 700 gals. of fuel oil free; 1-hp. air conditioner at \$459, 850 gals. of fuel oil free.

## Frigidaire Unit For Chevrolet Is Light and Compact

DAYTON—A "radically new" refrigerator compressor, claimed to be "the lightest and most compact ever built," is being introduced by Frigidaire for use in air conditioning systems for General Motors automobiles, Mason M. Roberts, GM vice president and Frigidaire general manager, has announced.

No larger than a football, the new compressor is the heart of the pre-packaged cooling and heating system Frigidaire is manufacturing for installation under the hood of 1955 Chevrolet V8 models.

"This air conditioner is unique in that it is completely assembled, charged with refrigerant and oil, and thoroughly tested before leaving Frigidaire's Dayton plant," it was stated. "Installation at Chevrolet assembly plants is thus simplified, the entire unit being set in place without further changing or assembly of parts."

"The complete system consists of cooling-heating coils, compressor, condenser, blower, distributor, and controls and weighs just slightly more than 100 lbs. The (Concluded on Back Page, Col. 1)

## Carrier Offers New Trailer Conditioner

SYRACUSE, N. Y.—A new type of air conditioning unit developed specifically for mobile homes has been announced by Carrier Corp.

This air conditioner is now in production and is available for nationwide distribution.

The unit will make possible a new kind of summer comfort for the more than two million people currently living in mobile homes, John H. Holton, vice president, Allied Products Div. of Carrier, stated. Holton predicted that many mobile home manufacturers would adopt air conditioning as a standard feature in their models.

The new Carrier unit "was fashioned expressly to meet a whole list of requirements laid down by mobile home experts in (Concluded on Page 21, Col. 4)

## '55 Refrigerators, Freezers and Room Coolers Shown by I-H

CHICAGO—International Harvester Co. last week introduced for 1955 a six model line of refrigerators that includes a 12-cu. ft. unit; four chest and two upright freezers; and six air conditioners including reverse cycle heat pump models in 3/4 and 1-hp. sizes.

List prices reportedly are below those on comparable 1954 models, with air conditioner tags being \$10 to \$50 lower and freezer prices down \$8 to \$44. Prices of some refrigerator models also are under those of similar-size 1954 units.

Refrigerator prices range from \$189.95 to \$449.95 and those of freezers from \$269.95 to \$579.95. Air conditioners are priced from \$229.95 to \$449.95.

The company unveiled the new lines to distributors and district offices throughout the country. Introducing the new products, R. H. Burnside, assistant manager, General Sales Dept., pointed out that the refrigeration line is shorter than I-H produced for 1954.

"We've been able to cut the line and at the same time extend its coverage of the market by careful study of market and population figures and by designing the line (Concluded on Page 4, Col. 3)

## St. Louis Utility 'Postpones' Rule On Room Units

ST. LOUIS—Union Electric Co. of Missouri has revised its position, established last January, that beginning Jan. 1, 1955, it would invoke a service rule giving it the right to require customers to provide correction for low power factor devices.

In a letter to manufacturers of room air conditioning equipment, M. E. Skinner, vice president and director of sales, said the utility is "temporarily postponing taking this action."

"It was decided to do this because of the cooperative attitude of the Air-Conditioning & Refrigeration Institute and the sincere and continuing effort on the part of its member companies to improve the power factor of room air conditioners."

"We appreciate the problems of manufacturing lead time and that (Concluded on Page 2, Col. 4)

## Clime-Matic Announces New Air Conditioner Line

NEW YORK CITY—Announcing an entirely new line of air conditioning units, A. L. Patterson, president of Clime-Matic Corp. of South Norwalk, Conn., revealed today at a special meeting at the corporation's New York office, the designing philosophy behind the new units.

Ranging from small 2-ton household models, to 30-ton industrial models, the units in the new line were created to meet the specific (Concluded on Back Page, Col. 5)

## Be Loyal to Line, Company, NCRSA Speakers Urge

By George M. Hanning

NEW YORK CITY—Loyalty to the organization and a need for more insistence upon it was emphasized by several speakers at the National Commercial Refrigerator Sales Association convention in the Hotel Statler here on Nov. 8 and 9.

"Be loyal to the company you represent. Don't run it down," C. V. Hill, president of manufacturing firm bearing his name, urged the commercial refrigeration distributors. "If you must tell the world all the things wrong with your partner, the manufacturer, it may be best to change horses."

"Keep your organization sold on

More detailed accounts of many of the speeches given at the NCRSA convention will appear in later issues of the NEWS.

the line you represent," he advised. "It's your job to see that your men are all kept in line. See that they are loyal to you and the products you have chosen to sell."

Robert Tyler, president of Tyler Refrigeration Corp., echoed these sentiments in outlining the requisites for a good sales manager.

Among these requisites, he said, is the solemn duty to defend to his men the product line his company handles and the policies of (Concluded on Back Page, Col. 1)

## American Coils Names Hatcher To Head Sales

NEWARK, N. J.—Appointment of C. M. "Pete" Hatcher as general sales manager of American Coils Co. here has been announced recently by Michael Parcaro, American Coils' president.

For several years, American Coils Co. has manufactured and marketed the "Comfortaire" heat pump.

The company has also manufactured "Tradename" air conditioners for national concerns offering this unit under their own name.

The "heat pump" type installation has grown by leaps and bounds, Parcaro says, adding that American Coil is now ready to produce heat pumps in increased volume.

Newly acquired high speed production machinery has now been installed which will enable the company to increase air conditioner manufacturing. American Coil Co.'s board of directors has also voted to market air conditioners under its own name plate in addition to maintaining steady production of trade-brand units.

Increased activity in the heat pump field, and the advent of the company's own line of self-contained air conditioners necessitated the employment of a full time sales manager, the post to which (Concluded on Page 4, Col. 2)

## RSES and ARI Plan Meetings Nov. 18 to 20

Minneapolis Program Set For RSES Convention, ARI Educational Conference

MINNEAPOLIS—The 17th annual convention of the Refrigeration Service Engineers Society and an Air-Conditioning & Refrigeration Institute Educational Conference will be held here on Thursday, Friday, and Saturday (Nov. 18-20) of this week.

The RSES meeting will continue for an extra day, concluding with a business session on Sunday.

The Radisson hotel in Minneapolis will be the RSES convention headquarters. Educational exhibits will be set up in the Municipal Auditorium by some 70 manufacturers, making this one of the largest exhibits of this kind sponsored by ARI. The Nicollet hotel will be headquarters for the exhibiting manufacturers.

Schedule for the convention and educational conference and exhibits is as follows:

**Thursday, Nov. 18**

9 a.m. to 12 noon and 1 to 3 p.m.—RSES business session and educational program.

3 to 6 p.m. and 7 to 10 p.m.—Exhibits open.

Evening—Get-together party.

**Friday, Nov. 19**

9 to 12 noon and 1 to 3 p.m.—Educational program.

3 to 6 p.m. and 7 to 10 p.m.—Exhibits open.

**Saturday, Nov. 20**

9 to 12 noon—Educational program.

12 to 6 p.m.—Exhibits open.

7:30 p.m.—RSES annual banquet.

**Sunday, Nov. 21**

9 to 12 noon—Final RSES business session and annual election of officers.

In addition to the speaking program, there will be a get-together party at the Radisson hotel Thursday evening, the annual RSES banquet Saturday evening in the (Concluded on Page 21, Col. 2)

## E. W. Mack, R. E. Caplan Buy Wabash Mfg. Co.; Organize as Wabash Corp.

CHICAGO—E. W. Mack and Robert E. Caplan announced recently that they have organized a new corporation named Wabash Corp. and have purchased the complete plant, receivables, inventory, patents, trademarks, and goodwill of Wabash Mfg. Co. from its former owners.

Sole owners of the new company are Mack, president, and Caplan, vice president. Mack, who has been in refrigeration manufacturing for 25 years, was president of Wabash (Concluded on Page 4, Col. 4)

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## Supplies and Equipment Wholesalers 'Let Go' At Annual Meeting on What's 'Bothering Them'

ST. LOUIS — Some of the answers to the question "what's bothering the refrigeration supplies and equipment wholesaler," came to light during the recent annual meeting of the Air Conditioning and Refrigeration Wholesalers organization here, when Executive Secretary Starr Hull arranged a program that permitted expression by the membership on some of their current problems.



**H. W. Welker, Jr.**  
President of Hasco, Inc., Greensboro, N. C., was elected president of Air Conditioning and Refrigeration Wholesalers for the next year at the organization's recent annual meeting.

"Direct Selling" by manufacturers of refrigeration supplies and equipment could probably be chalked up as the No. 1 "beef" of the wholesalers. Almost as much as the matter of direct selling itself, say the wholesalers, is many manufacturers' failure to have any kind of firm policy on the matter.

"With some of the producers you don't know what to expect from day to day or from territory to territory," complained one wholesaler.

Opinion seemed to be divided on the matter of whether or not a special discount arrangement for industrial users might be an answer to the problem. There was some comment to the effect that efforts along that line thus far had accomplished some good.

There was certainly a general feeling expressed that improved "educational" and "promotional" programs by manufacturers individually and by all segments of the industry working together jointly was a crying need.

"We wholesalers need education and promotion assistance just as much as our customers," said George J. Roche of Roche & Hull, Baltimore, past president of the organization and a veteran in the business. "I'd sure like to get some concrete help rather than just a lot of 'sweet talk' from manufacturers' representatives."

Other wholesalers called for an improvement in the type of printed material sent out by manufacturers, or at least a "lesser amount of stuff, with an eye to sending out

only material that could really be used."

One suggestion was made that rather than try to develop an educational and sales promotion program on a national scale, a series of rather small regional meetings be held. Teams of sales officials representing the various manufacturers would conduct the meetings.

At the same time, the importance to the wholesaler of holding regular sales meetings of his own organization was emphasized.

"If you don't believe in their importance, try holding sales meetings for some time, and then discontinue them for a while, and you'll discover how important they have been to you," said one advocate.

In a discussion of the amount of money to be appropriated for advertising, the wholesalers seemed to be in agreement that .2 to .4 of 1% of gross sales is about the figure that they spend on advertising.

One question that came up in the open discussions was "How can the wholesaler simplify the handling of in-warranty returns of merchandise?"

It was stated that this problem is now being studied by the manu-

facturers' relations committee. One need in this regard is said to be a simplified form that would be applicable to any product.

Such a form, it was pointed out, might be in the nature of a packing slip or tag. It was also suggested that such returns and the forms filled out in conjunction with the returns be accumulated until a manufacturers' representative made a call, and the whole accumulation turned over to him. Such a routine could possibly save some paper work and reduce freight charges.

How good are the wholesalers' mailing lists, and what do they mean in terms of helping to build sales, was another question asked.

It was generally agreed that while there is a certain amount of "deadwood" in all wholesalers'

mailing lists, this can be eliminated by developing a careful system of checking returned mail, and subsequent "weeding out" of the list.

"A good mailing list can be the wholesaler's most effective sales tool if he uses it well, and particularly if he follows up a mailing with calls by his sales force," said one ARW member.

One of the questions that came up during the discussion was to the effect "How can the wholesaler best contribute to means of correcting unhealthy conditions in the industry?"

One answer was "by participating in surveys made by his association and other agencies on matters of vital importance to the continued good health and prosperity of the industry."

## St. Louis Utility Postpones Service Rule--

(Concluded from Page 1)

there are some manufacturers who earlier in 1954 had crystallized their designs for 1955 production and in some cases made commitments for components so that they are unable to offer improved performance for 1955 products.

"However, some manufacturers have informed us that certain of their 1955 room air conditioners will meet or exceed the 90% power factor requirement originally requested."

### TO EXPLAIN IMPORTANCE TO CUSTOMERS

Skinner continued: "While we are relaxing the power factor service rule during the next year, we do plan to explain to customers the importance to them of high power factor equipment."

"In cases where the quality of any customer's electric service is seriously affected by low power factor equipment, we are reserving the right to enforce the rule."

"Reported sales of room air conditioners in St. Louis through September aggregated over 30,000 units," he added, "and we are confident that you can look forward to an excellent St. Louis market in 1955 and subsequent years."

### MEMORANDUM ENCLOSED

With Skinner's letter was a copy of a memorandum concerning electric service for room air conditioners. This has been mailed to all air conditioning distributors in the area served by the utility.

Signed by S. S. Sansbury, manager, sales development and training, the memorandum listed and explained new National Electrical Code regulations and also announced the utility's decision to "postpone until further notice enforcement of our requirement that all room air conditioners meet a full load power factor of 90%."

In addition, the memorandum included information on the types of electric service and the voltages available for room air conditioners.

### OLDER DWELLINGS MAY HAVE ONLY TWO-WIRE SERVICE

"In residential areas," it was explained, "Union Electric provides single phase alternating current from a 120/240-volt distribution system. Individual customers may have three wire, 120/240-volt, single phase service; however, many of the older dwellings will be found to have only two wire, 120-volt, single phase service connected to the building, although 3 wire service is available at the nearest transformer or on the pole to which the house is connected."

"In such cases, the third wire will be run to the customer's service entrance and the meter will be changed upon request. Appropriate time will have to be allowed for the company to process such orders and do the work involved."

"In the St. Louis downtown area customers are supplied from a 4 wire, 120/208-volt, three phase system. 120-volt, single phase supply is obtained between any phase wire and the neutral wire; 208-

volt, single phase service is derived by connecting between two of the three phase wires.

"This type of service may also be found in some of the newer urban and suburban shopping centers and other large buildings."

### INFORMATION ON CIRCUITS INCLUDED

The memorandum also gave this information on circuits for room air conditioners and starting currents:

"Room air conditioners in excess of ¾ hp. should be provided for and connected to 240-volt (or 208-volt) circuits."

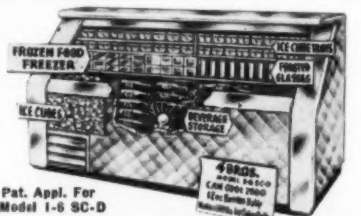
"Units of ¾ hp. or less may be connected to 120-volt circuits provided their full load current is within the capacity limitations as set forth in the requirement of the Electrical Code as outlined above and provided that the starting in-rush currents do not exceed: 46 amperes for manually controlled units; 23 amperes for automatically controlled units."

"Those room air conditioners with automatic controls which stop and start the motors generally have starting in-rush currents in excess of the 23 amperes permissible for use on 120-volt circuits. This causes voltage fluctuation, undesirable light flicker, and interference with television reception. Such units should be purchased for and connected for 240-volt (or 208-volt) operation."

"While it is permissible for ¾-hp. units to be connected to 120-volt circuits if starting and running currents meet Electrical Code and Utility Service rule requirements, it is preferable that they be connected to 240-volt (or 208-volt) circuits whether they be manually or automatically controlled as this insures better voltage conditions, minimizes light flicker, and television interference."

### Everybody's Doing It!

ST. LOUIS — The building of Webster Groves Trust Co. at 75 W. Lockwood Ave. has been air conditioned under a remodeling program which modernized the structure and provided for future expansion.



Pat. Appl. For Model 1-6 SC-D

### 4-BROS. New 1955 All-Purpose 5-IN-1 ICE CUBE MAKER & Comb. BEVERAGE COOLER

1. Makes 250 lbs. ice cubes daily. 2. Cools 2000 12-oz. bottles daily. 3. Frost glasses shelf or freezer. 25° F. 4. Storage ice cubes or cocktail bottles. 5. Defrosts automatically. 6. Easy-Out trays. 7. 5-YEAR Factory Warranty on unit. 8. Gleaming #430 Stainless steel interior and exterior. Remote, no unit, \$42.50 in. ft. Comp. self-con., \$651. ft. Size: 4 to 10 ft. Long, 27" W., 39" H.

**4 BROTHERS**  
REFRIGERATION MANUFACTURING CO.

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Exclusive Franchises available to dealers.

# Always Ask for... **genetron** Super-Dry Refrigerants



### QUICK FACTS ABOUT **genetron** REFRIGERANTS:

- Super-Dry: guaranteed exceptionally low moisture content
- Non-corrosive to standard equipment materials
- Non-toxic, non-flammable, stable, safe
- Critical and freezing points are well outside range of operating uses
- Solvent action on oil helps prevent solidification or congealing of lubricant
- Miscible with oil; aid in lubrication of equipment

**genetron 11—ORANGE LABEL**  
TRICHLOROMONOFUOROMETHANE

**genetron 12—WHITE LABEL**  
DICHLORODIFLUOROMETHANE

**genetron 141—GREEN LABEL**  
MONOCHLORODIFLUOROMETHANE

For further information on "Genetron" Super-Dry Refrigerants—see your wholesaler, or write or phone any General Chemical office listed below.



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In Wisconsin: General Chemical Company, Inc., Milwaukee  
In Canada: The Nichols Chemical Company, Limited • Montreal • Toronto • Vancouver



## Gibson To Use Present Distributors for New Air Conditioning Lines

GREENVILLE, Mich.—Existing distributors of Gibson ranges, refrigerators, food freezers, and room air conditioners will be considered as commercial and residential air conditioning outlets, according to a spokesman for Gibson Refrigerator Co.

"Every effort will be made to train and aid these organizations in setting up for this new and profitable market," he said. "Where this is not feasible, Gibson will solicit additional distribution for its line of self-contained air conditioners."

Gibson recently announced that it is going into the package air conditioning unit field with a line of 10 models. Models are available in 2, 3, and 5-hp. sizes.

## Cory Begins Production Of '55 Air Conditioners

CHICAGO — Cory Corp.'s Fresh'nd-Aire Co. Div. has started full-scale production of the 1955 line of Fresh'nd-Aire "All-Season" window room air conditioners, it was announced recently.

Next year's models are being manufactured at Cory's Grayslake, Ill. plant.

Plans for the new line are still under wraps, according to J. W. Alsdorf, Cory president. No definite date has been set yet for trade announcements of 1955 models and prices.

"This early start on next year's production has enabled Cory to handle the manufacture of a number of private brand units in addition to the Fresh'nd-Aire air conditioners, Alsdorf reported.

"In addition to air conditioners, the Grayslake plant also is running complete production schedules on a wide variety of other Fresh'nd-Aire air treatment appliances."

## Frigidaire Opens New Distribution Center In Philadelphia

PHILADELPHIA—A new distribution center and office headquarters was opened recently by the Philadelphia branch of Frigidaire Sales Corp. on a six-acre site at 500 East Hunting Park Ave. in northeast Philadelphia.

According to Branch Manager H. J. Heller, the new and larger distribution center will replace Frigidaire sales offices formerly located at 1920 Chestnut St. and the warehouse and parts facilities at 31st and Jefferson Sts.

Heller declared that "the move was made necessary by the post-war increase in sales of Frigidaire appliances throughout the branch's dealer distribution area in eastern Pennsylvania, New Jersey, Delaware, and Maryland."

The new building has more than 75,000 sq. ft. of space, including modern air conditioned offices, an auditorium with complete stage facilities, two complete kitchens.

A classroom is provided for sales and service personnel training. New and improved facilities for stocking and shipping parts items will be utilized to assure better dealer and user satisfaction, Heller pointed out.

A modern warehouse section will provide more than 50,000 sq. ft. of storage space for Frigidaire's major appliances, commercial refrigeration products, and air conditioning equipment. Shipping facilities make it possible for eight railroad freight cars to be unloaded on a siding at the rear of the building at the same time. A similar number of trucks can be loaded at a dock on the other side of the building.

## Polk Gift Goes to Old, New Customers

CHICAGO—"There's no excuse for the merchant who fails nowadays to woo the old customer as ardently as he does the new."

So declared Sol Polk, president of Polk Bros. furniture and appliance stores, in disclosing that the company has purchased 50,000 sets of chromed reflector pans as gifts for both old and new electric range customers.

A three-piece set valued at \$5 will be given to every customer who bought an electric range from Polk's anytime during the past 10 years.

"The emphasis of our day is upon improved human relations and improved public relations," Polk said. "The forward-looking merchant will realize that he is shirking his duty if he does not promptly revise his attitude toward his former customers."

## FTC Dismisses 6-Year-Old Complaint Against Gamble-Skogmo Without Prejudice

WASHINGTON, D. C. — The Federal Trade Commission has dismissed without prejudice a complaint charging Gamble-Skogmo, Inc., Minneapolis, Minn., with the use of exclusive dealing contracts and coercive methods to enforce them.

A decision and order was issued by the Commission on June 11, 1952 and was subsequently reviewed and remanded by the United States Court of Appeals for the Eighth Circuit on Feb. 25, 1954.

The court found that a salient factor in a decision by a Commission hearing examiner is the personal evaluation of the credibility of witnesses. The fact that the decision was rendered by a substitute hearing examiner who did not preside during the testi-

mony violated Section 5(c) of the Administrative Procedure Act, the court said.

The Commission dismissed the complaint in view of the fact that since the services of the examiner presiding during the testimony were not available, a new trial would be required under the court's ruling.

The Commission noted that the evidence in the case relates to activities occurring more than six years ago.

Accordingly, the Commission ruled that a new trial is unwarranted. This action does not prejudice the right of the Commission to make any necessary investigations of the company's current practices or to take such further action as circumstances may warrant.

## 'Ham Sandwich Day' Sells Refrigerators

AMERICAN FALLS, Idaho — Ham and electric refrigerators go together fine.

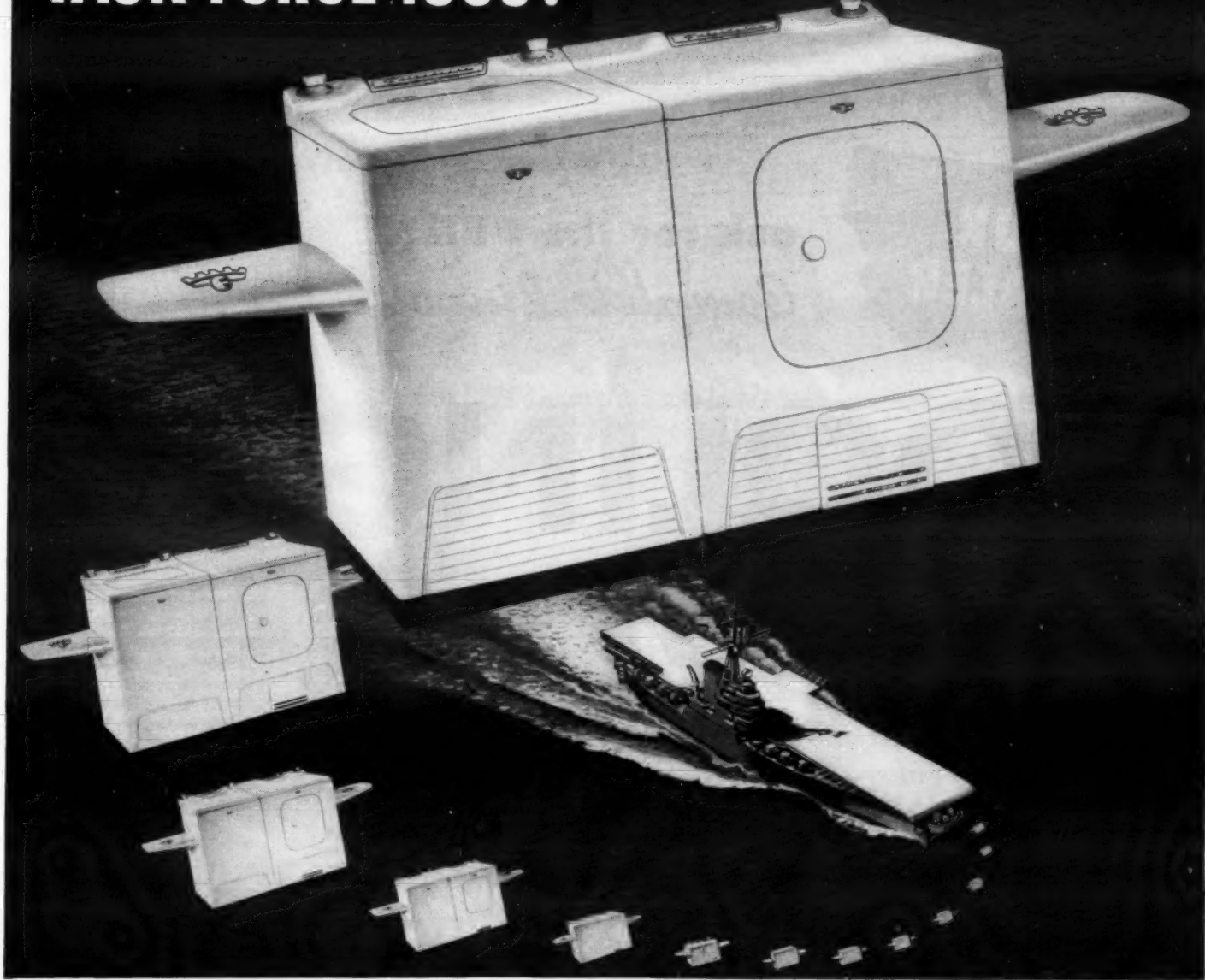
That's what Art's Television store discovered here when they held a special "Ham Sandwich Day!"

The American Falls appliance store located in the heart of a rural area held a special "Ham Sandwich" Day on a Saturday when the rural residents were in town and everybody was invited to come into the showroom and look over the refrigerators and eat ham sandwiches at the same time.

A spokesman for the store said no sales pressure was used on the visitors. "We merely let them browse around and have a ham sandwich on the house," he said.

He said the event helped to build the store's goodwill and resulted in several actual sales and several potential sales.

## TASK FORCE 1955!



## Frigidaire launches new low-priced laundry pair to capture a still greater share of the market!

For years nothing in the "top" washer and dryer field has offered as many advantages as the famous Frigidaire Porcelain Pair. Today Frigidaire Dealers are enjoying an outstanding position in that sales area where customers want only "the finest money can buy", because the new 1955 Porcelain Pair is better than ever before.

But here's the real news for 1955! Frigidaire is on its way to a brand new sales opportunity with the sensational new Thrifty Pair—a fully automatic washer and a dryer that's priced with the lowest, yet gives customers the most!

Here's an automatic washer with a suggested list price of only \$229.95—yet look at what it offers the consumer. It's truly automatic, not semi-automatic. It has famous Live-Water Washing that gets out more dirt. There's exclusive Float-over Rinsing . . . Rapidry Spin. There's Lifetime Porcelain on top, lid and tub for real rust protection.

And here's an automatic dryer with a suggested list price of only \$179.95, yet look what it offers. There's a Lifetime Porcelain Drum

and a giant Screen Drawer that traps and holds more lint than other makes. It's even adaptable to either 120 or 215 volt current. The matching washer and dryer can be mounted flush with wall and both can be made portable.

Add all this together and you have a laundry team that has no equal in its price classification. Yes, just as the Porcelain Pair is outstanding in its field . . . so will the new Thrifty Pair stand out in the low-priced field. It's further proof of the value of the Frigidaire Franchise.



# Frigidaire

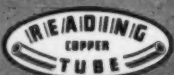
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AND  
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**SPECIFY**

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COPPER  
TUBING**



**READING  
TUBE CORPORATION**

EMPIRE STATE BUILDING  
NEW YORK 1, N. Y.  
WORKS: READING, PA.

## American Coils-- I-H Lines--

(Concluded from Page 1, Col. 4)

Hatcher is appointed. He will work directly for James Turner, executive vice president and secretary, in building a nationwide sales program for the company.

Hatcher has already assumed his new duties, having resigned his position with the Brunner Mfg. Co., where he has been advertising and sales promotional manager, and acting assistant sales manager.

Prior to joining Brunner, Hatcher was advertising manager, sales promotional manager, and assistant to the president of Baker Refrigeration Corp. He was formerly with Universal Cooler Corp.

American Coils new air conditioner will be available in 3, 5, 7½, 10, 15, and 20-ton self-contained models. All models, 3 hp. through 15 hp., will be available with the customer's choice of a semi-hermetic or the conventional open-type refrigeration unit.

The unit will be registered under the ACI trade name, and incorporates a completely new designed cooling coil, an improved distribution system, and a number of other refinements.

In addition to the ACI line of air conditioners, American Coil Co. will soon announce another popular line of refrigeration equipment to the trade and another item for the home heating and cooling market.

(Concluded from Page 1, Col. 3)

to fit the facts of today's refrigeration needs," he said.

Topping the six-model line of refrigerators is the new model A-120-D, a 12-cu. ft. refrigerator that the company claims "fits in the same floor space as most 8-cu. ft. models."

The model A-120-D is the largest capacity refrigerator ever turned out by International Harvester. It measures 28 in. in depth and 29½ in. in width, and features pushbutton automatic defrosting and automatic "Verna-Therm" all-weather temperature control.

Other I-H refrigerators for 1955 are an economy 7.4-cu. ft. model A-75, an 8.5-cu. ft. apartment size model A-85, a 9.4-cu. ft. model A-95-D "with all the luxury features of larger refrigerators," a 10.6-cu. ft. model A-104, and a 10.1-cu. ft. model A-106-DX. All have full-width freezers, except the A-104, which features a U-shaped freezer.

Deluxe models feature automatic defrosting as well as adjustable and gliding shelves and the "Pantry-Dor" feature for the storage of food on the refrigerator door. Models A-120-D, A-106-DX, and A-106-D also feature automatic Verna-Therm all-weather temperature controls.

All models continue to feature the "Decorate-it-Yourself" door which can be made to match



NEW TO International Harvester line is this model A-95-D refrigerator. Featured is full-width 50-lb. freezer compartment, meat drawer, vegetable crisper, nearly 17 ft. of shelf space and 8 ft. of space in the door—enough to store a week's supply of food.

kitchen color and decorative schemes, or allowed to remain white.

International Harvester's 1955 freezer line includes four chest and two upright models. Largest upright is the 18.9-cu. ft. AV-19. Model AV-15 is a 14.7-cu. ft. upright which holds up to 514 lbs. of frozen food, "yet takes no more floor space than an ordinary refrigerator."

The four chest freezers range from the apartment-sized 7-cu. ft. model to a large 20-cu. ft. model. Other chest freezers are a 12-cu. ft. model and a 16-cu. ft. model.

Features of the uprights include a "Frost-Out" vent "for quick and easy disposal of defrost water," and a rigid box-girder door "to hold heavier food loads on door shelves."

Chest freezers are designed to afford more "up at the top" freezer area than in the past. All chest freezers except the A-7 have the "Decorate-it-Yourself" top which can be covered with countertop material to match other counters in the kitchen, and used as extra surface work space.

Uprights have the decorator door, similar to refrigerators.

"Most important feature of the I-H freezer line," the company said, "is the factory pre-set temperature control and scientific placement of freezing coils in the chest wall. This has the effect of maintaining temperatures constant, within a single degree or two, everywhere in the freezer, any time of the year."

The six 1955 air conditioners in the International Harvester line run from ¼ hp. to 1 hp. and all may be decorated to blend unobtrusively with draperies and decorative schemes.

"Most significant change in the new line is the introduction of 'All-Seasons' heat pump models available in ¾ and 1-hp. sizes," I-H stated. "Reverse cycle heat pumps automatically warm the room as well as cool."

"Also important is the new design air grilles which are located at the top of all models and are designed to send cool air upwards



NEW COUNTER TOP on chest model freezers may be covered with plastic, Formica, or linoleum to match or blend with decor.



"MESS FREE" DEFROST is featured on all upright freezers. Retractable rubber tube carries water from cabinet to pan.

to the ceiling and over the whole room. The 'No-Draft' feature will be a mainstay of International Harvester air conditioner advertising during 1955."

### REFRIGERATORS

Model	Size	List Price
A-75	7.4 cu. ft.*	\$189.95
A-85	8.5 cu. ft.*	239.95
A-95-D	9.4 cu. ft.†	—
A-104	10.6 cu. ft.	309.95
A-106-D	10.1 cu. ft.‡	419.95
A-106-DX	10.1 cu. ft.	424.95
A-120-D	12 cu. ft.*	449.95

\*Left hand door available at same price

†Promotional model

‡Without vinyl door cover

### FREEZERS

A-7	7 cu. ft. chest	269.95
A-12	12 cu. ft. chest	369.95
A-16	16 cu. ft. chest	469.95
A-20	20 cu. ft. chest	529.95
AV-15	14.7 cu. ft. upright	499.95
AV-19	18.9 cu. ft. upright	579.95

### AIR CONDITIONERS

A-350-D	½ hp., 115 V	229.95
A-500-D	½ hp., 115 V	299.95
A-750-D	¾ hp., 115 V	349.95
A-751-D	¾ hp., 230 V	349.95
A-1000-D	1 hp., 230 V	399.95
A-1001-D	1 hp., 208 V	399.95
A-850-D	¾ hp., heat pump	399.95
A-1100-D	1 hp., heat pump	449.95



E. W. MACK



R. E. CAPLAN

## New Wabash Firm--

(Concluded from Page 1, Col. 5)

Mfg. Caplan for the past several years has been sales manager and also in charge of the engineering of Wabash products.

"Now Wabash refrigeration products will be manufactured by a completely independent company that is not affiliated with any one else," the announcement said, adding:

"Following our long established policy, Wabash refrigeration products will continue to be distributed exclusively through established refrigeration supply wholesalers."

**Filtrine**  
"Taste-Master"  
PURIFIERS  
for  
WATER - COOLERS  
ICE MAKERS

... rust, dirt  
chlorine taste

... service  
breakdowns  
due to rust  
& sludge

Insures service satisfaction for all  
coolers, ice-makers! Clear, taste-  
free water... crystal ice... every  
day... in all locations.

**FILTRINE MFG. COMPANY**  
53 LEXINGTON AVE. • B'KLYN 38, N. Y.

**SEE YOUR  
WHOLESALE**

**ask for the PENN**  
*Complete Line of*

# COOLING CONTROLS

Here's what happens when you use Penn cooling controls. You'll have the *right* control to fit your needs exactly... costly service call-backs stop... and customers "talk you up" because of efficient on-the-job performance and long-life dependability of Penn controls. Put them all together and they spell out M-O-R-E P-R-O-F-I-T for you!

Don't settle for less... use Penn every time on every cooling job. **Penn Controls, Inc., Goshen, Indiana.** Export Division: 13 E. 40th Street, New York 16, N. Y., U.S.A. In Canada: Penn Controls Limited, Toronto, Ontario.

Series 246 Water Valves  
¾" to 2½" in threaded  
flanged styles for use with all  
refrigerants.

Series 325 Time-Pressure De-  
froster automatically varies  
defrost time for any load  
condition... avoids shut-  
down time.

Series 275 Oil Protection  
Control for use on all pres-  
sure-lubricated refrigeration  
compressors.

Series 270 temperature and  
pressure controls in single or  
double-pole models have di-  
rect-reading scale.

**PENN**  
AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES





DUCT SYSTEM of Westinghouse heat pump is shown in the farrowing barn of Conner Prairie Farms, as Tillman Bubenzer, manager, left, and Don Fisher check swine production records. The installation, which heats, cools, dehumidifies, and ventilates a building from one compact unit, offers the advantages of increased swine production, lower initial investment and operational costs, and reduced fire hazards.

## Heat Pump Aids Hog Farrowing

INDIANAPOLIS — A Westinghouse heat pump has been successfully applied and with considerable savings to the farrowing of hogs on the Conner Prairie Farms near here.

Although the heat pump is being used extensively in both urban and rural homes, this is one of the first installations of its kind and is considered a prototype of its application to other animal husbandry requirements.

Tillman Bubenzer, manager of Conner Prairie Farms, reports the outstanding advantages of the unit include greatly increased swine production, lower initial investment and operational costs, and reduced fire hazards.

Bubenzer said the main purpose of the heat pump is to have management control over the farrowing barn temperature regardless of outside weather conditions. In this way, multiple farrowing can be planned and conducted year-round instead of seasonally, and valuable barn space is utilized to the utmost.

"We are still in the process," Bubenzer said, "of collecting swine production data as a result of using this heat pump. Although our over-all production has increased since it was installed, we particularly observe a decrease in swine fatalities during that crucial two weeks period after birth. We attribute much of this improvement to the advantages of the heat pump."

Don H. Fisher, who is in charge of swine production at Conner Prairie Farms, said this temperature control also allows early weaning, at two or three weeks, and so the turnover of sows is greater.

"Labor costs are cut consider-

ably," he said, "since the heat pump has eliminated much of our care, cleaning, and feeding problems. In the summer we feed and exercise the sows outside. To keep them cooled down, we spray them with water from a plastic garden hose nailed to the side of the barn. In the winter, we feed and exercise them in another part of the barn away from the farrowing pens. Chopped straw is used for bedding.

"We believe the health of our swine has improved as a result of the heat pump," Fisher said, "and fatalities due to disease have been reduced. The system provides uniform and constant heat and cooling throughout the barn, and there are no drafts. Insects, dust, and odors have been all but eliminated."

The Westinghouse heat pump is installed in the loft of the Conner Prairie Farms farrowing barn, where it occupies no more space than an average size furnace. The unit is fully automatic, and does not have to be adjusted as temperatures change. It maintains a minimum temperature of 65° in the winter, and 72° in the summer. The warm and cool air is distributed throughout the barn by ducts.

The heat pump was installed by the Illingsworth Construction & Engineering Co. of Indianapolis, a distributor of Westinghouse air conditioning systems.

The Conner Prairie Farm, located at nearby Noblesville, is owned by Eli Lilly of Indianapolis. With 1,290 acres, it is naturally known for the development of projects to improve farming methods. It is a breeding stock farm with swine, a 120-head dairy herd, and 250-head of beef cattle.

## Distributor Ad Kicks Off Fall-Winter Drive On G-E Packaged Units

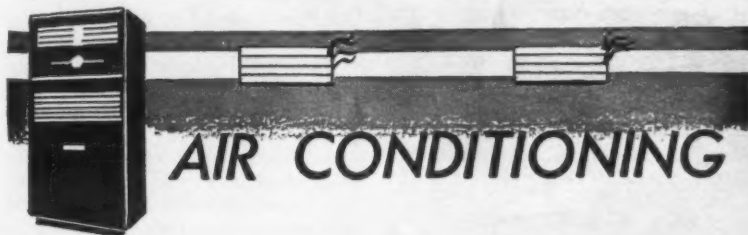
BROOKLYN — Apparatus Distributors, Inc., distributor of General Electric packaged air conditioners for New York and northern New Jersey, recently kicked off its fall-winter newspaper advertising campaign on 1955 G-E units with a full-page advertisement on the back page of *The New York Times*.

Full-page ads were to follow in the *Daily News*, *New York Post*, and *World Telegram & Sun*.

"This will be by far the largest fall-winter advertising campaign ever done by any packaged air conditioning distributor in the New York area," said Stanley Fried, manager of advertising and sales promotion.

The ad in the *Times* cited advantages of G-E packaged air conditioners and "what you gain by buying now." The latter points include "special 'Early Bird' savings . . . if you buy now"; "engineers, planners, and installers now have the time to do an unhurried survey and a double-checked job"; and "buy today—pay in May."

Also, the ad listed some of the firms in the area which "stepped up their sales, efficiency, and profits by installing General Electric packaged air conditioners." The ad contained a coupon for a free survey, estimate, and brochure.



## AIR CONDITIONING

### Student Follows 16 Hours of Training With 16 Tons of Selling

LOS ANGELES—The effectiveness of good training programs was substantiated recently here, when a student who had attended one of these program forums went out immediately after taking the course and surveyed a restaurant correctly for a 5-ton packaged unit and obtained the order.

The same student did likewise with an automotive showroom securing an order for 11 tons. He had taken 16 school hours, and in one week had sold 16 tons of air conditioning.

So reports L. D. Brosell, Chrysler Airtemp field representative on the West Coast, who together with a local Airtemp distributor, the Ashburn Supply Co., had set up this training program.

Brosell's application and sales training school was devised for the benefit of 17 sales people at Elster's, a Los Angeles firm selling fixtures and other types of equipment to restaurant, hotel, and institutional trade.

"With Elster's large clientele of restaurant and specialty shop owners evidencing more and more interest in air conditioning, it was felt necessary to indoctrinate the company's entire field staff with at least a basic knowledge of air conditioning, thus the school," Brosell declared.

Once a week for four weeks the school session was held and for a period of three and a half to four hours the problems of air conditioning installation and service were covered.

Using films and blackboards as aids, they illustrated and discussed the specific plans for different types of business layouts; equipment selection procedures, all phases of water-cooled packaged condensers, fresh air introduction into the units, costing of jobs, checking wiring in buildings, and other pertinent air conditioning questions.

A brief portion of each session was used for review.

## The Incident of the



## CHATTERING WALL HEATER



### Another air-moving problem solved at AIR-CENTER, U.S.A.

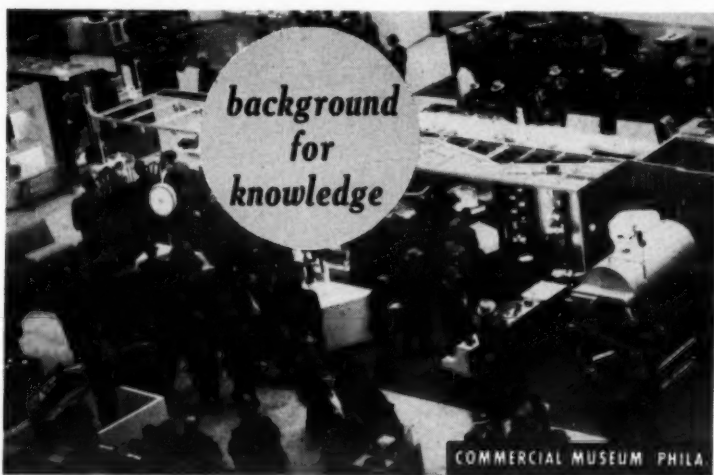
A domestic wall heating unit was recently submitted to the Torrington Manufacturing Company's laboratory. Consisting of a vertical duct with an intake blower wheel at the top, a heating element within the duct, and a baseboard outlet, the unit's otherwise excellent performance was marred by a loud "chattering" noise — which greatly reduced its consumer sales appeal.

Torrington engineers went to work and found that the objectionable "chatter" originated in the blower units, with the noise being amplified by the sheet metal duct. To solve the problem, they recommended an inexpensive change in the design of the scroll surrounding the blower and directing its output.

With no further change in the blower wheel, the motor, or the power requirement, the unit continued to operate with the same high efficiency and at a greatly reduced sound level.

Torrington has acquired a wealth of experience dealing with problems of air flow, sound and vibration in a wide variety of heating, ventilating, and air conditioning products. Torrington's laboratory is completely equipped for this work. Torrington's engineers are ready to help you solve your air moving problems.

- high efficiency
- uniformity of product
- sturdy construction
- wide application
- quiet operation
- technical assistance
- flexible delivery
- merchandise appeal



Air Conditioning Exposition **12<sup>TH</sup>** INTERNATIONAL HEATING & VENTILATING EXPOSITION  
JANUARY 24-28, 1955

- See over 400 exhibits of new equipment
- Learn the latest trends, practices and methods in air conditioning and refrigeration
- Compare competitive products
- Discuss problems and plans with qualified technicians

#### PLAN NOW TO ATTEND

Under the auspices of American Society of Heating & Ventilating Engineers.

Write for advance registration.

Management: International Exposition Company, 480 Lexington Ave., New York 17, N. Y.

CASE HISTORY NO. 4

THE **TORRINGTON** MANUFACTURING COMPANY  
TORRINGTON • CONNECTICUT  
VAN NUYS, CALIFORNIA • OAKVILLE, ONTARIO  
Leading designer and producer of air impellers for the heating, ventilating and air conditioning industries.



## INSIDE DOPE

Learn to live and laugh—  
Thus delay your epitaph

By **GEORGE F. TAUBENECK**

(Concluded from Page 1, Col. 1)  
to end, there still wouldn't be enough for the lame excuses.—*Baptist Observer*.

### Quotes of the Week

What a Shakespeare has to say about human nature and human conduct is more important than what the summarizer of 10,000 questionnaires can tell us.—*JOSEPH WOOD KRUTCH*.

It's always a good idea to keep your words soft and sweet, because you never know when you will have to eat them.—*National Safety News*.

### We Missed the Train At Niles

The things scientists are fooling around with these days seem fantastic to Dope—even in this Atomic Age.

Take, for instance, the case of Dr. Ernst Stuhlinger, who works for the guided missile division of

the Redstone Arsenal at Huntsville, Ala.

Dr. Stuhlinger stirred up considerable talk at the International Congress of Astronautics in Innsbruck, Austria, this summer with plans for a "light" spaceship using solar-electric beams of propulsion. (He emphasized that his ideas and opinions are his own, not those of his employers.)

The doctor's 250-ton spaceship would, he says, be able to travel for a year, making interplanetary flights on a non-return trip from an earth satellite to a similar platform orbiting around Mars.

According to this rocketeer, the round trip would take two years. It would require a ship weighing only a few tons more, perhaps 270 tons (it would weigh that much at the terrestrial end of the voyage, anyway). And it would be much lighter than a "conventional" chemically-propelled ship, he points out.

Dr. Stuhlinger thinks the source of power could be obtained from messing around with the rare element cesium (or, if necessary, rubidium) after the latter is ionized or reduced to its basic electrical particles and then accelerated and blown from the rear of the rocket where the particles would recombine.

Are you still with us? Good. Let us continue.

It seems some 10,000 volts are needed for the ion-acceleration process. Where would the designer get them? From a turbo-electric

generator deriving heat from the sun.

It could be done with mirrors—40 of them. Solar energy reflected from the mirrors would be played for a year onto radially-arranged boilers containing a liquid boiling at 255° C. (Dr. Stuhlinger suggests the compound diphenyl.) This, in turn, would develop steam in the usual way. Thus, the ship would get its motivation.

Thanks to his work with guided missiles, Dr. Stuhlinger would be pretty much up on what might be astronautically feasible. And he has 20 pages of facts and equations to support his views.

To some of his fellow astronauts, the good doctor's scheme seems a bit advanced. To Dope, no astronaut, it appears even more so. But then, who knows. . . .

### Last Laughs

Every Human Being is intended to have a character of his own; to be what no other is, and to do what no other can do.—*WILLIAM ELLERY CHANNING*.

Clear writers, like clear fountains, do not seem so deep as they are; the turbid looks most profound.—*LANDOR*.

According to *Holiday* magazine, the late William Rhineland Stewart's valet pressed his boss's paper money every night before the son-of-the-rich went out for a Large Evening.

### Marshall and Tarkington

Twice a Pulitzer Prize Winner (for *Alice Adams* and the *Magnificent Ambersons*) Booth Tarkington always will remain our favorite novelist.

One reason: his books *Penrod*, and *Penrod and Sam* helped this teen-age boy understand himself. Lifewise, *Seventeen*.

A better reason: The *Penrod* novels included characters from our home town, where Tarkington visited relatives regularly. And his *Gentleman from Indiana* utilized this home town (Marshall, Illinois) as a setting.

To some of us in Marshall he was quite a hero. To others he was merely "that Eccentric from Indianapolis who stays with the Booths every summer."

Incident: A new family moved into Marshall. Eldest daughter, who collected autographs of eminent personages, heard that "the man at the Booths" was a novelist. So she obtained his signature.

Tarkington returned her autograph book, and pleasantly asked: "Have you read any of my novels?"

The girl looked at the signature, back at him, and shook her head.

"You aren't famous," she decided. "Say, got an eraser?"

A TV news show ended: "... the dogs broke away and raced crazily through a field of tobacco."

Came the commercial: "Does your cigarette taste different lately?"

The newest dream kitchen has a lounge with TV, bookcase, and fireplace, but most women would chuck the whole thing for a good, old-fashioned hired girl.—*Changing Times*.

### Canst Thou Beat It?

Consider the Editor! A child is born unto the wife of a merchant in the town. The physician getteth 10 bucks. The editor writeth a stick and a half and telleth the multitude that the child tippeth

the beam at nine pounds. Yea, he lieth even as a centurion. And the proud father giveth him a Cremo . . . Behold, the young one groweth up and graduateth. And the editor putteth into his paper a swell notice. Yea, a peach of a notice. He telleth of the wisdom of the young woman and of her exceeding comeliness. Like unto the roses of Sharon is she and her gown is played up to beat the band. And the dressmaker getteth two score and four iron men. And the editor getteth a note of thanks from the sweet girl graduate. . . . And the daughter goeth on a journey. And the editor throweth himself on the story of the farewell party. It runneth a column solid. And the fair one remembereth him from afar with a picture postal card that costeth six for a jitney. . . . Behold, she returneth, and the youth of the town fall down and worship. She picketh one and lo, she picketh a lemon. But the editor calleth him one of our promising young men and getteth away with it. And they send unto the editor a bid to the wedding, and behold the bids are fashioned in a far city. . . . Flowery and long is the wedding notice which the editor printeth. The minister getteth ten bones. The groom standeth the editor off for a twelve months subscription. . . . All flesh is grass and in time the wife is gathered unto the soil. The minister getteth his bit. The editor printeth a death notice, two columns of obituary, three lodge notices, a cubit of poetry and a card of thanks. And he forgetteth to read proof on the head and the darned thing cometh out, "Gone to Her Last Roasting Place." . . . And all that are akin to the deceased jumpeth on the editor and exceeding great jumps. And they pulleth out their ads and cancelleth their subscriptions, and they swing the hammer even unto the third and fourth generations. —from *The Pathfinder*.

### NEW PRODUCTS?

Turn to "What's New" Page for useful information on new products. Use Key No. for fastest service.



Save Time! Save Money! Save Effort!

DETROIT 777

**"SPACE SAVER"**

Thermostatic Expansion Valves . . .



● Capacities— $\frac{1}{8}$  to 2 tons, F-12—Standard Valve  
—1 to 3 tons, F-12—External Equalizer

- "C" and "Z" cross charges available
- Compact, rugged construction
- Mount in any position
- Easily cleaned cartridge needle and seat assembly
- Accessible and easy superheat adjustment
- Large inlet strainer, easily cleaned
- Available with or without external equalizer connection
- External equalizer type easily converted to internal equalizer right on the job.

**DETROIT CONTROLS Corporation**

5900 TRUMBULL • DETROIT 8, MICHIGAN

Division of American Radiator & Standard Sanitary Corporation

Representatives in Principal Cities • Canadian Representatives in Montreal, Toronto, Winnipeg—Railway and Engineering Specialties, Ltd.



AUTOMATIC CONTROLS for REFRIGERATION

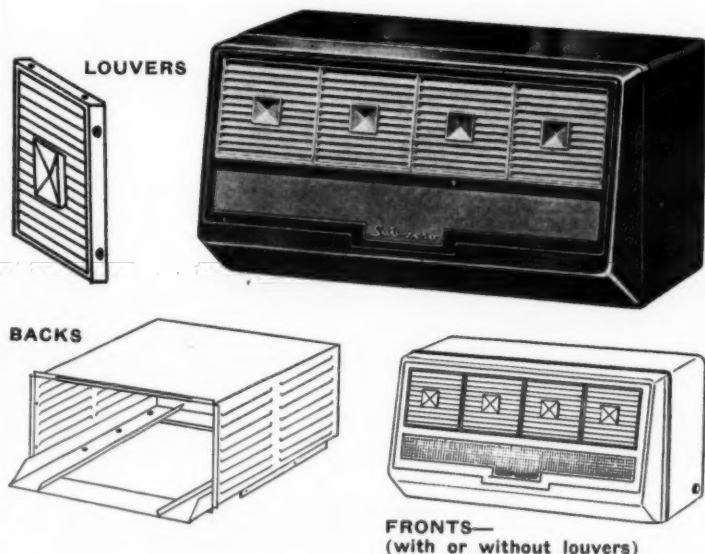
AIR CONDITIONING • DOMESTIC HEATING • AVIATION • TRANSPORTATION • HOME APPLIANCES • INDUSTRIAL USES

Serving Home and Industry

AMERICAN STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

## • MANUFACTURERS • JOBBERS • DISTRIBUTORS

WE WILL BUILD YOUR AIR CONDITIONER COMPLETE - - OR FURNISH INDIVIDUAL COMPONENT PARTS TO FIT YOUR NEEDS



## ANY QUANTITY—ANY PART!

Here's a real opportunity to simplify your air conditioner production problems—with economy and fast service. The Sub-Zero Air Conditioner illustrated above can be purchased on a private brand basis as a complete unit—or—any of the parts shown can be furnished to change or modernize your present line—and there are no minimum quantity requirements! A letter will bring complete information.

FOR INFORMATION, WRITE

**SUB-ZERO FREEZER CO., INC.**

DEPT. AN, MADISON, WISCONSIN



**Hurricane Hazel Havoc?****Good Neighbor Murray Aids Freezer Owners**

PAOLI, Pa.—When Hurricane Hazel knocked out the electric power lines serving many homes in this area, quick-thinking appliance dealer William Murray here won the undying gratitude of 67 home freezer owners.

With the power intact at his store, he contacted his freezer customers and offered to bring their loaded freezer to his store and keep it operating during the emergency.

He said his men worked throughout the weekend bringing in freezers. A cooperative Ford dealer near by permitted Murray to store freezers in his establishment when Murray's space disappeared.

Murray estimated that the freezers he rescued contained about 21,800 lbs. of frozen foods.

**Jordon Stores Food for Philadelphia Victims**

PHILADELPHIA—Jordon Refrigerator Co. provided a service for Jordon freezer owners in this area by storing thousands of pounds of food that was in danger of spoiling when electric power was disrupted in the wake of Hurricane Hazel.

Harry Fogel, executive vice president, said that over the Oct. 15 weekend, more than 100 owners of Jordon freezers asked the company for help.

Fogel said that all freezers awaiting shipment were powered expressly for use by these Jordon freezer users.

Jordon-New York, Inc., offered the same service to freezer owners in the New York and New England areas.

**Food Plans To Supply 'Frostair' Freezers Made by Deepfreeze**

N. CHICAGO, Ill.—Deepfreeze Appliance Div. of Motor Products Corp. has entered into an agreement with E. Greenhut Corp., New York City, nationally-known food freezer plan operator specializing in exclusive franchises with department stores, to supply specially-built upright home freezers under the name "Frostair," a product by Deepfreeze.

The agreement was worked out by John Fellmann, the manufacturer's manager of appliance sales, and Gunther Reis, executive vice president of Greenhut.

Fellmann said that the "Frostair" units will be available under the Greenhut plan at a number of leading department stores. Fellmann said the Greenhut concern has had a successful record in the department store field, and he saw an excellent potential for the sale of "Frostair" freezers under the food plan program.

**Manitowoc Floor Plans Offer 6 Arrangements**

MANITOWOC, Wis.—There's a new look to the Manitowoc floor plans which are again being offered to dealers throughout the country, Manitowoc Equipment Works reports.

Cut the exact size of the floor space all Manitowoc appliances will occupy (30 by 36 in.), the new promotion piece gives the home-maker concrete suggestions for room arrangements that will include a freezer or the "2-Zone" family-size refrigerator-freezer combination.

Six different space arrangements are illustrated on the piece. They include three kitchens, a combination kitchen-utility room, a utility room, and a food preservation center. There is also scaled space on the piece where a consumer can plan her own room arrangement.

With one of the floor plans, a homemaker can discover in her own home just what space is required for any Manitowoc appliance, and can experiment with arrangement. T. F. Hannon, sales manager, points out that the plans seem to fill a well-known feminine urge to rearrange furniture and appliances, without the usual strain on the man of the house.

Manitowoc dealers have found the floor plans most effective as handout pieces in stores, home shows, and fairs, and as direct mail pieces. The are now available to Manitowoc dealers and distributors from the manufacturer.

**King Shows '55 Freezers At 'Profit Party'**

GLENDAL, L. I., N. Y.—King Refrigerator Corp. unveiled its 1955 line of chest and upright freezers recently at a "Profit Party" and sales meeting held at the King factory here to acquaint freezer dealers with the company's new direct factory-to-dealer sales and merchandising plan.

Features of the new line include narrow depth to allow passage through all doors, multi-level chests, and gold and chrome trim with decorator colors throughout, according to George Alpert, who was recently appointed national sales manager of King's Freezer Mfg. Div.

Sales aids and a complete merchandising booklet were available at the three-day event.

**Nally Represents Manitowoc In Kansas City Territory**

MANITOWOC, Wis.—T. F. Hannon, general sales manager, Manitowoc Equipment Works here, has announced the appointment of Frank J. Nally as Manitowoc representative in Missouri, Kansas, Nebraska, and parts of Iowa. He has been representing O'Keefe and Merritt in this territory. He replaces James J. Crowe.

**Can't Get a Bum Steer Here**

CHICAGO—The home freezer purchaser at Polk Bros. new Chatham Shopping Center store here could meet his future beef-steaks eye to eye during the recent grand opening event.

For the three-day affair, Polk penned up 20 to 30 head of cattle adjacent to his store and gave one away to each purchaser of a 26-cu. ft. Hotpoint freezer. Purchasers of smaller size freezers were given quarters and sides.

Armour & Co. supplied and butchered the beef, while the Jewel Tea Co. dressed and delivered the meat to the freezer purchaser for Polk.

Every Polk visitor during the grand opening was given the opportunity to have his house keys duplicated in gold.

**'Bilt-In' and 'Dinette' Models Featured In Revco Ad Campaign**

DEERFIELD, Mich.—An increased advertising program for 1955 to feature two new products—the "Bilt-In" freezer and refrigerator, and the "Dinette" freezer—has been scheduled by Revco, Inc.

Fourteen national magazines, as well as business publications, will be used to advertise the Bilt-In from January through May, according to J. H. Overmeyer, vice president and director of sales. Four-color advertisements will be used for the Dinette freezer in four national magazines from April through June.

The excellent sales results that followed the introduction of Revco's Bilt-In, consisting of an 8.3-cu. ft. automatic defrost refrigerator and a 6.3-cu. ft. freezer installed flush with the kitchen wall, led to the decision to make this product the advertising leader, it was reported.

The Dinette freezer utilizes wasted space beneath a table for the freezer unit and has also proven popular with housewives who desire their frozen food storage chest located in the kitchen.

Although the new units will be spotlighted in Revco's 1955 advertising, a portion of the space will be devoted to the regular line of chest and upright freezers.

**HOME & FARM FREEZERS****British Editor Predicts Upsurge In Freezer Use**

N. CHICAGO, Ill.—Although home freezers are still about as rare in England today as they were in the United States before World War II, an upsurge in their use is expected in the future.

So said a British editor on a recent visit at Deepfreeze Home Appliances.

Mrs. Marjorie Bruce-Milne, editor of a five-volume home economics encyclopedia to be published next spring by Paxton Publishing Co., London, disclosed that she is showing her conviction in the future of frozen foods in her countrymen's diet by devoting a large section in the encyclopedia to the subject.

She obtained various materials from Miss Lysle Fraser Hutton, director of the Deepfreeze Home Economics Institute, for inclusion in the book. Mrs. Bruce-Milne was especially impressed with the variety and convenience of such home-frozen foods as pie crusts, soup cubes, and snacks.

**Guild To Head Norge Home Freezer Sales**

CHICAGO—Appointment of E. N. Guild as home freezer sales manager for Norge Div. of Borg-Warner Corp. has been announced by R. C. Connell, vice president of sales.

Guild was with Norge from 1933 to 1949 in various sales capacities, as representative in the export division, and as director of research. He helped develop the first Norge farm and home freezer and also directed establishment of the Norge Research Laboratories.

Guild has held sales executive posts with Victor Products Co. and Frick Co. Previous to his present appointment he was vice president of Esmond Mfg. Co., manufacturer of automatic ice cube machines, Esmond, R. I.

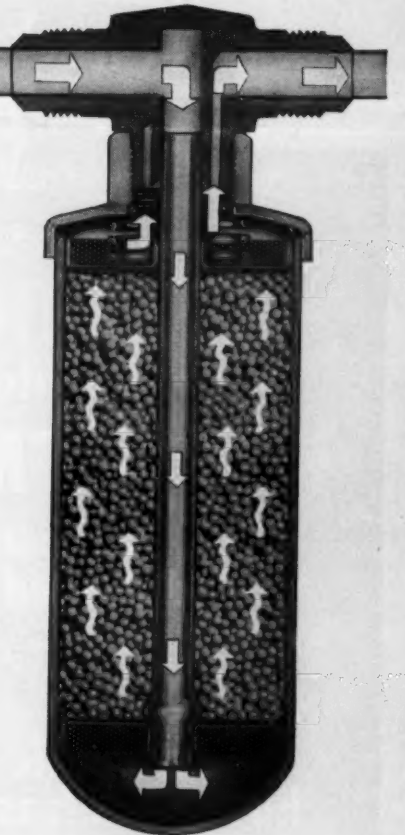
**E. N. Guild**

# stop

# acid here

**WITH DOUBLE-DUTY**

## AN•DRITE

(ANSUL-TREATED 100% ACTIVATED ALUMINA)**ACID causes refrigeration system breakdown!****NEW T-FLO DESIGN "SCREWS IN LIKE A LIGHT BULB!"**

Activated alumina in pellet form makes Ansul's new Andrite the double-duty desiccant. Its thousands of fast drying surfaces dry deeper—pulling moisture content way down. But even more important, Andrite removes acid, cleans up the chemical condition that causes sludge and corrosion—the major cause of refrigeration system breakdowns.

Designed for the revolutionary Ansul T-Flo Drier, Andrite won't break down or dissolve to plug filters or damage compressors. And the drier is easy to install, too. Even replacement

of the drier cartridge saves time, because it screws in like a light bulb. And no tools are needed. For fewer call-backs, speedier servicing, change to Ansul. And be sure to give new equipment double protection in acid and moisture removal. Use Ansul T-Flo Driers with Andrite.

For more information or answers to your refrigeration problems write to: Ansul Chemical Company, Refrigeration Division, Dept. D-3, Marinette, Wisconsin.

DuPont "Freon," non-forming oils, sulfur dioxide, methyl chloride

# ANSUL

**GREATER PROFITS FOR ALL! \$**

WITH THE **NOLIN Moisturizer** VEGETABLE CASE

AVAILABLE IN 5' - 8' - 10' SIZES

If It's Not a NOLIN, It's Not a MOISTURIZER

**NOLIN** MANUFACTURING COMPANY  
1400 LLOYD ST. PH. LD. 57  
MONTGOMERY, ALABAMA



## Joseph Lipack Forms Warren-Joel Corp.

LONG ISLAND CITY, N. Y.—Joseph S. Lipack, who has been associated with the commercial refrigeration industry for the past 25 years, has formed a new distributing organization to be known as Warren-Joel Corp. with offices at 29-19 39th Ave. here.

Officers of the corporation are: Lipack, president; Edward W. Gunther, vice president; and Allene S. Harris, secretary-treasurer. Directors include Lipack, Gunther, and Herbert Pachtman of New York City.

The organization will distribute Warren Co. products in New York City, Nassau and Suffolk counties, and northern New Jersey.

Lipack was formerly executive vice president of Super Cold New York Co., Inc. and for the past two years has been general manager of the Warren Co. branch office in New York. He is a former president of the Commercial Refrigeration Distributing Association, is at present a director of that organization, and is a former director of the National Commercial Refrigerator Sales Association.

### Name Filed for Buffalo Firm

BUFFALO—A business name has been filed in the Erie County clerk's office for State Air Conditioning Co., 1814 William St., Buffalo, by A. John Peters.

## Commercial Refrigeration

### Self-Service Dept. Retains Customer-Butcher Relations

Pre-Packaging Operation Right Out In Open

By C. Dale Mericle

SEATTLE—When Lawrence Thom, operator of Thom's Thriftway market here for the past 33 years, decided to remodel his store and convert to pre-packaged meats, he did not want to "hide" the packaging operation in a back room.

He felt that this change, even if windows were provided so that customers could view packaging operations, would make him lose his personal contact with customers built up over the years.

This has proved very helpful, particularly in the "special cut" business which he has developed to a considerable degree through this personal contact.

Also, he felt that many self-service pre-packaged meat operations were too "cold"—the customers were more separated, even

if only by glass, from the meat department personnel.

The solution, as worked out by Thom with the aid and guidance of Stanley Young, in charge of fixture sales, and Sherman W. Bushnell, president, Refrigeration Engineering Co., Seattle distributor for Tyler and York, was as follows:

The meat pre-packaging room is right out in the open, directly in back of the 48 ft. of in-line Tyler open fresh meat cases.

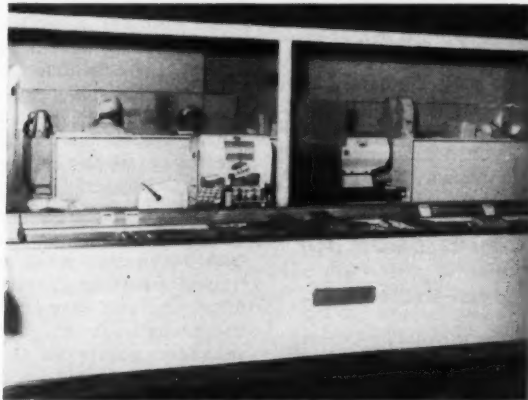
This way, it's no trouble at all for a customer to ask the butcher for a certain cut; likewise, the butcher can make suggestions to customers he knows.

And there's certainly no question about the customers being able to see the meat being pack-

(Concluded on next page)



CUSTOMERS can choose packages or ask clerk for special cuts, in which Thom's does a thriving business.



PRE-PACKAGING room for Thom's Thriftway market in Seattle is fully open and just behind line-up of Tyler open meat cases.



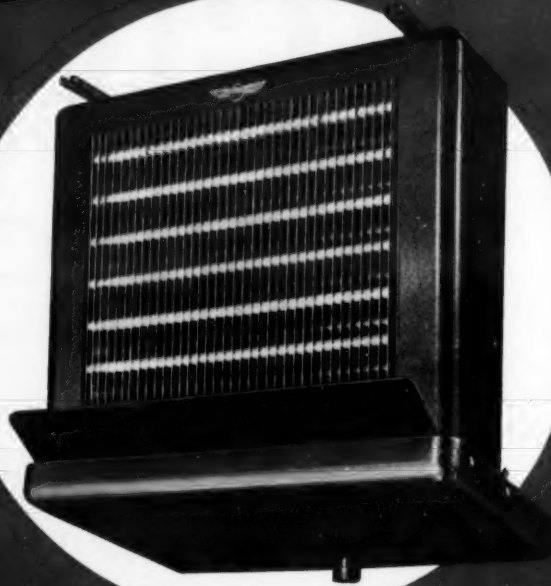
"ROLLING COLD" Tyler case keeps meat under proper refrigeration at all times without necessity of cooling entire packaging room.

check the PRICE

check the INSTALLATION COST

check the FEATURES

**LARKIN**  
low temperature  
**HUMI-TEMP**  
with time-tested  
and proved  
**FROST-O-TROL**  
automatic  
hot gas defroster



CHECK ALL THREE—price, installation cost, features—and you'll choose LARKIN! Here is the low side unit that takes the toughest defrosting jobs in stride—from -32°F sharp freeze rooms to 30°F meat storage lockers.

Low first cost, dependable performance, positive product protection, and economical operation add up to customer satisfaction.

Simplified installation cuts this cost to the bone. It is only necessary to run one extra wire, one extra gas line, and mount the compact control panel.

Get the facts from your wholesaler. Let him explain why dealers from coast to coast are choosing the LARKIN Humi-Temp line with Frost-o-Trol Hot Gas Defroster.

#### Features that Sell and Satisfy

- Minimum temperature rise during defrosting
- Adjustable defrosting time
- No excess heat or moisture load
- Lower operating costs
- Higher efficiency of cooling unit
- Heat applied throughout entire coil
- Melts icing from inside out
- Simple, low-cost installation
- Electrically heated drip pan assures positive drainage of melting ice and water — prevents freezing and spill-over

**LARKIN**

119 MEMORIAL DRIVE, S.E.  
ATLANTA, GEORGIA



**COILE** INC.

ORIGINATORS OF  
THE CROSS-IN COIL

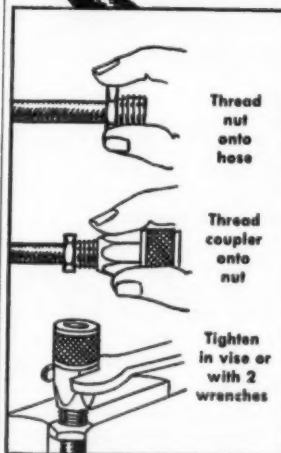
### Make Your Own Charging Lines!

Buy DFN bulk hose  
cut to any LENGTH . . .

—attach a pair of  
DFN Reusable Quick Couplers . . .

It's easy, fast, economical with the New

**DFN CHARGING LINE**  
SUPER FLEXIBLE



Why throw away an entire charging line, couplers and all, just because the hose is worn? You don't with the new DFN Charging Line, because the couplers are reusable. If hose wears, move the couplers to salvage good portions—or simply buy a new length of inexpensive DFN bulk hose. Make any length you need—right on the job, if necessary. DFN hose is safe, durable, flexible—with working pressure of 400 lbs., burst pressure of 2000 lbs. minimum. Patented 2-piece reusable Quick Couplers are solid brass.

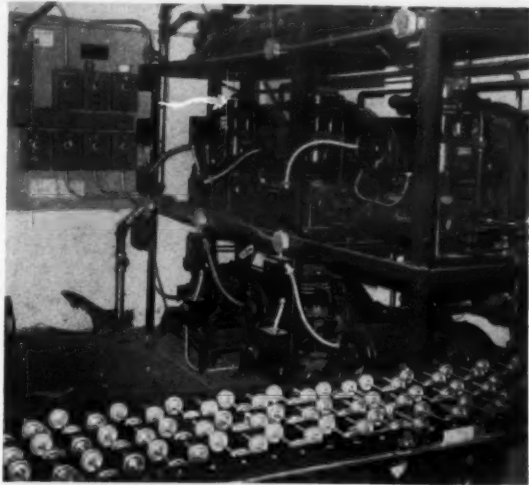
Your wholesaler has DFN Charging Line. If not, write



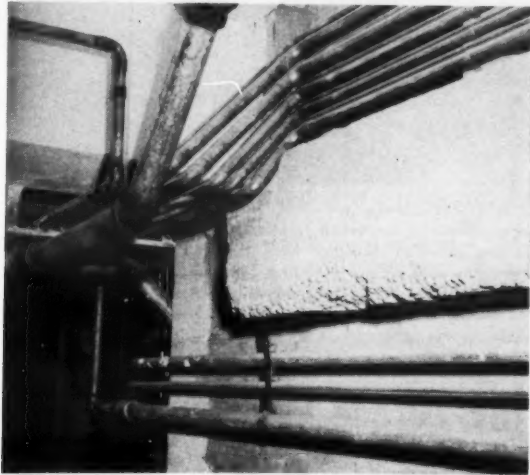
The McIntire Company, Livingston, N. J.

**DRIERS • FILTERS • STRAINERS**





COMPRESSORS are neatly arranged on rack with labels and numbers to identify them.



CAREFULLY run hard copper tubing is characteristic of installations made by Refrigeration Engineering Co., who handled Thom's market job.

## Self-Serve Dept. Retains Personal Contact--

(Concluded from preceding page) aged for display in the open cases.

Meat packaging operations are aided by use of a 16-ft. long Tyler refrigerated "rolling cold" case designed to let the pre-packaging be done in a normal temperature room while still keeping the meat under refrigeration for all but a few minutes' time.

The meat department also makes use of an 8 by 8-ft. walk-in freezer and a built-in 14 by 24-ft. meat cooler.

In addition to the 48 ft. of open meat cases, the Tyler equipment in the store includes 36 ft. of open produce cases (refrigerated), 24 ft. of open frozen food cases, 24 ft. of open dairy cases, and a 12-ft. long sliding door reach-in used for beer.

Other refrigerated space in the store is a 12 by 22-ft. produce cooler.

Nine condensing units remotely installed in the basement handle most of the equipment mentioned. There are five 3-hp. units, two 2

hp., and two 1½-hp. machines all installed on a three-deck compressor rack, three machines on each level.

The compressors are neatly lettered and numbered to show to which cases or coolers they're connected. Main switch and fuse boxes for each machine have the corresponding number lettered on them, too, so it's an easy matter for the serviceman or owner to identify which fuse box is connected to which machine.

### Nor-Lake Ups Penman To Purchasing Agent

HUDSON, Wis.—Promotion of Robert W. Penman to purchasing agent for Nor-Lake, Inc. has been announced by Harry J. Blakeman, president.

Penman will be responsible for the purchasing of all materials for production runs. He was employed for five years as a shop engineer in the firm's engineering and drafting section before his promotion.

## Stone Age 'I Love Lucy' Film Explains Direct Mail

DAYTON—"A Story About Ug, The First Direct Male," is the title of a new sound slide film on the subject of direct mail advertising that has been created by the commercial refrigeration and air conditioning advertising department of Frigidaire Div. of General Motors.

According to Inesco Williams, advertising manager, the film is done in color cartoon style with lively and humorous narration. It is designed primarily for dealer consumption.

The story is about a Stone Age "Romeo" by the name of Ug, who used direct mail (stone tablets) in selling himself as a good husband to the local eligible cave maidens. It is very realistic and reveals Ug's mistakes in his advertising campaign to win the heart of his likeliest prospect, "Lucy Leopardskin."

### Exporter-Importer Moves

INDIANAPOLIS—Refrigeration products exporter-importer Edward T. Klee, who specializes on patent exchanges and liaison between British Empire sales organizations and American suppliers, has moved from Detroit to Indianapolis.

Klee's new address is 6101 College Ave., Indianapolis 20, Ind.

## Boone Heads B & G Sales; Five Others In New Posts

MORTON GROVE, Ill.—Six new appointments in the sales staff of Bell & Gossett Co. were announced recently by R. E. Moore, executive vice president.

W. A. Boone, a vice president of the company, was made sales manager. A. B. Meeg was promoted to assistant sales manager and E. F. Ford takes over as manager of national accounts.

Also promoted were M. H. Hofmeister as manager of Original Equipment Sales Div., C. L. Towns as manager of Heating Products Div., and H. H. Barclay as assistant manager of Industrial Products Div.

## Roanoke Distributor Adds Refrigerated Beer Truck

ROANOKE, Va.—Porterfield Distributing Co. here has added to its fleet of trucks the latest innovation in service vehicles—a refrigerated truck for the delivery of draught beer at a constant temperature of 36°.

B. W. Porterfield, Jr. said the refrigerated beer truck is the first of its kind in Virginia.

The specially-built truck is equipped with its own plug-in type electric refrigerator unit, which maintains a temperature of 34 to 38° for a period of 12 to 14 hours, he added.

## Schmitz and Preher Advance In Servel Commercial Posts

EVANSVILLE, Ind.—Two promotions of commercial refrigeration division executives at Servel, Inc. have been announced by John F. Zubrod, product manager of the division.



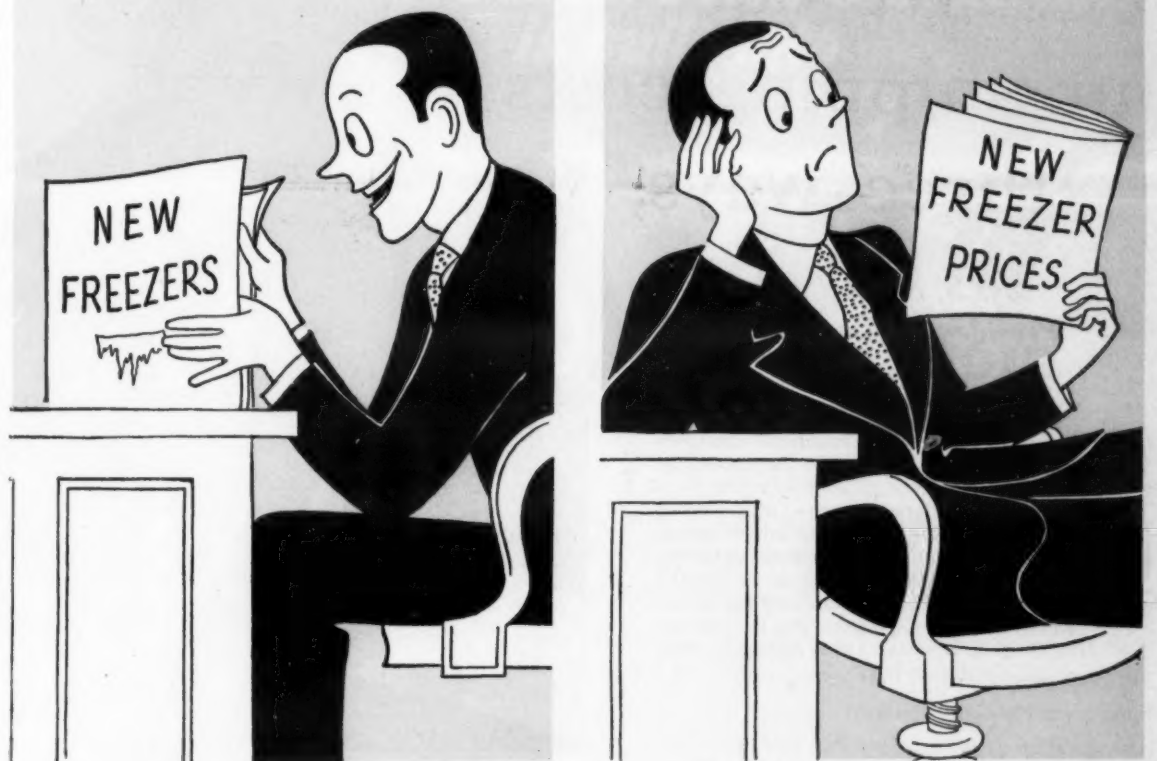
A. M. Schmitz

A. M. Schmitz, formerly manager of the applications engineering department at the factory, has been advanced to eastern district manager with residence in Albany, N. Y. He will be succeeded by Henry C. Preher as chief applications engineer.

Schmitz attended St. Ignatius college at Cleveland and Carnegie Institute of Technology at Pittsburgh. He joined Servel in 1928 as a service engineer, later became a sales engineer, and was made applications engineering manager in 1951.

Preher has been a member of the Servel factory sales applications staff since his graduation from Purdue in 1948. He served as a pilot in the Air Force during World War II. He is a member of the American Society of Refrigerating Engineers.

When he's BITING ..... but not BUYING



Be ready to land him with  
**COMMERCIAL CREDIT PLAN FINANCING**

**M**OST of your prospects need their working capital and usual lines of credit for current operations. To make sure they buy now . . . and from YOU . . . include COMMERCIAL CREDIT PLAN financing in your recommendations. More than 300 offices to serve you nationally. When can we tell you our story? Phone our office in your city or write or wire COMMERCIAL CREDIT CORP., 14 Light St., Baltimore 2, Maryland.

**COMMERCIAL CREDIT CORPORATION**

A service offered through subsidiaries of Commercial Credit Company, Baltimore . . . Capital and Surplus over \$150,000,000 . . . offices in principal cities of the United States and Canada.



go to a **SPECIALIST**  
for helical finned  
heat transfer tubing

- straight lengths
- compact coils for refrigeration condensers
- blast air heating coils
- blast air cooling coils

OVER 100 SIZES IN PRODUCTION

Made to your  
individual  
specifications!



222 CANAL STREET

ROME, NEW YORK



## Imaginative Selling

### Major Mental Effort May Mean Masterful Merchandise Mover Which Might Make Much Money

CHICAGO—"Use imagination—yours, instead of letting yourself get caught by the imagination of others with the final result that your already too-thin profits are sliced thinner," Al W. Bernsohn, managing director of the National Appliance, Radio and TV Dealers Association, advised his dealers recently.

Here's what he suggested to stimulate imaginative thinking, drawing on the experience of two NARDA dealers to illustrate what he meant by imagination.

#### MOVE MERCHANDISE

"Never let a piece of merchandise have the same location on the floor for more than a month.

"Don't let a factory or distributor salesman come in without needing him into re-selling you and your sales organization on every piece of his merchandise on your sales floor.

"Don't have a dead piece of merchandise where a customer can touch it. The television set should work, the refrigerator should light up, the washer should be able to wash.

"Only the ranges and water heaters needn't all be operative mainly because youngsters burn easily. But radios and phonographs

should play. Having batteries in portables on the floor sells both. Traffic items should be demonstrated.

"Picture your profits on each item on the floor as your reward, your investment, as your challenge. Put play or real money on some of the pieces and look at them that way. Maybe you need to get a little scared or a lot excited about what your inventory represents in dollars potentially lost or gained.

"Think back to remember what stunt, promotion, or idea paid off best for you since you first went into business. The put that imagination to work."

Some imaginative ideas that have moved merchandise for dealers were cited.

Bernsohn pointed out that Rahr's store in Manitowoc, Wis. got rid of all its old merchandise that was spoiling the fresh look of the place at year's end by giving it a well-advertised axe.

#### 'GIVING IT THE AXE'

Dealer Upton Ziesler, who runs the store, broke an advertisement itemizing all the appliances to get the axe. At a given hour, the ad said, the purchaser gets 20% off. At a later hour, he gets 50% off.

If any is left the next day, maybe 70% is chopped off.

Another idea Ziesler has used successfully, is to run an ad listing the serial numbers of 20 \$1 bills and telling what the dollar bills are worth in gifts or discounts on selected merchandise, often as much as the trade-in would cover.

#### BUDGET HOUSEKEEPING GROUP

Dealer John K. Mooney of Broyles Electric Co. in Marion, Ind., has successfully promoted a "budget housekeeping group" for newlyweds consisting of a new appliance and two reconditioned appliances—range, refrigerator, and washer—for as low as \$3 per week, depending on the selection.

In the ad, the total price of all three items shown, if purchased as individual units, was \$440. If purchased as a package the price was \$400. Mooney handles his own financing and, if the customer's credit rating is good, allows no down payment.

During the picnic season, Mooney sold 31 major appliances during a two-day sale by offering free with each purchase a Scotch Kooler.

#### Mama Will Like This

HOUSTON, Texas — Seventy tons of air conditioning cool the new Lane Bryant, Inc. store which recently opened here. The air conditioning system cost about \$62,000, it was reported.

## SPECIALTY SELLING METHODS



R. C. CONNELL, vice president of sales, demonstrates that the Norge Christmas promotion is something to fool his horn about. Six-year-old Gail Benedict likes the toys although the horn blowing is hard on her ears. The \$50 package of toys, including trumpet, bicycle, blackboard, wagon, roller skates, paint set, tool kit, rocking chair, build-it-yourself mechanical fan, and toy helicopter, is being offered with each Norge major appliance purchased during the Christmas promotion.

### Norge Toy Parade Planned To Promote Major Appliances for Christmas Presents

CHICAGO — Norge dealers throughout the country will stage giant toy parades in their stores this Christmas season.

A \$50.04 assortment of 10 toys, ranging from a bicycle to a blackboard, will be offered with each Norge major appliance purchased before Dec. 25, according to R. C. Connell, vice president of sales for Norge Div. of Borg-Warner Corp.

"The promotion will solve the traditional problem of merchandising big ticket items during the Christmas season," Connell declared. "Ordinarily appliance dealers miss the major share of the Christmas budget which is spent on children."

The Norge "Santa Claus Special" consists of a sidewalk bicycle, wagon, tool set, painting kit, roller skates, trumpet, toy helicopter, rocking chair, build-it-yourself mechanical fan, and blackboard. All are for the 4 to 12-year-old group, and there are some 34,000,000 children in this age group, Connell pointed out.

Dealers can offer the toys and a refrigerator, washer, or other major appliance as a package for as little as \$25 down, he explained.

"We discovered that the average father has \$50 to spend for family Christmas presents. This new plan is the only way Dad can stretch his budget to cover both toys for the kids and a major appliance for the home.

"When we added these facts to the unprecedented possibilities for dealer store and window display and traffic building created by the toys, we knew we had a winner," Connell emphasized.

"Norge is backing this with more money than we ever spent on this type of promotion, upwards of \$100,000 for factory and trade advertising alone. The investment in toys is in the six figure bracket," he disclosed.

"We plan to support the Norge Santa Claus Special with a heavy

advertising schedule in local newspapers as well as in trade magazines," he said.

Window posters, pennant strings, broadsides, and ad mats for local use or tie-in programs are included in a promotion and display kit that accompanies the toy package.

### E-Z-SEE LIQUID INDICATOR

NEW FLO INDICATOR FLAP SHOWS ALL FLOW CHANGES

Analyze flow, function of expansion valve, by means of E-Z to SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof — hundreds of thousands in use.

Available at Wholesalers everywhere

REMCO INCORPORATED ZELLENOPLE, PA.

#### JUST ASK US

For "easy-to-get"

product information . . .

use coupon on "What's New" page. Use Key No. for fastest service.

### Redmond MICROMOTORS

One of largest stocks in the world!

FACTORY DISTRIBUTORS

CYCLO-FREEZE CORP.

MARVIN L. "FERGIE" FERGESTAD

P.O. Box #6, Dept. A, Mpls. 16, Minn.

MOhawk 9-6794

## WANTED

### DESIGN & PRODUCTION ENGINEER

Aggressive, experienced refrigeration engineer between 30 and 50 by reputable, nationally-known, well-rated Midwest manufacturer of beverage coolers and dispensers, walk-ins, ice cube machines and other commercial equipment. Include complete resume of education, employment history and references in reply. All applications confidential.

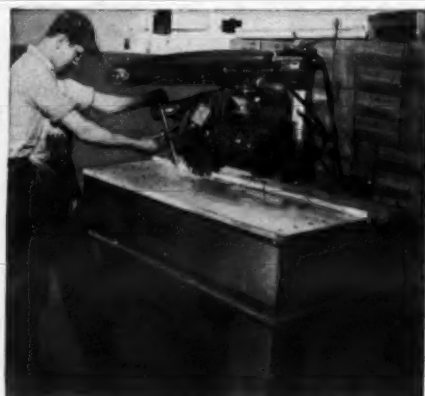
Write BOX A5085, Air Conditioning & Refrigeration News.

## "We cut our shipping costs three ways,"

says S. S. Auchincloss,  
President of De Walt, Inc.

"We wanted to improve the packaging of our industrial woodworking machines," continues Pres. Auchincloss. "So, we put the problem up to Atlas Plywood.

"We got that improvement — three ways — through Atlas Plywood lab-tested containers. The far greater protection these cases give our products is worth money to us in reduced damage claims. And they not only cut our assembly time by 20%, but they cost less than our old containers — making them more economical to use as well as to buy."



"Complete saw shops" is a fitting description of De Walt power saws, pace-setters wherever wood is cut. Packaging them calls for special care, to protect the mechanism from normal jolting and jarring during transit from the De Walt factory, Lancaster, Pa., to users far and near. Atlas Plywood cases supply that vital protection — and cut De Walt's shipping costs in the bargain!



Atlas Plywood Cases like this meet De Walt's needs for better, lower cost shipping. Eliminating paper shrouds, they're more secure against dirt, dust and water than the old containers. Their over-all strength, including stacking strength, is greater, too. Workers like them because they're easier to handle. And management likes them because they cut costly assembly time.

What about you? Do you risk wasted dollars due to product damage or increased shipping costs from unreliable containers? Send for free informative, illustrated 24-page booklet, "How Atlas Plywood Cuts Your Shipping Costs . . . Safely," — or see your Atlas Plywood representative (Classified Telephone Directory). Learn about the remarkable testing laboratory where Atlas Plywood containers win their lab-tested label. Atlas Plywood Corporation, Dept. ACR-3, 1432 Statler Building, Boston 16, Mass.

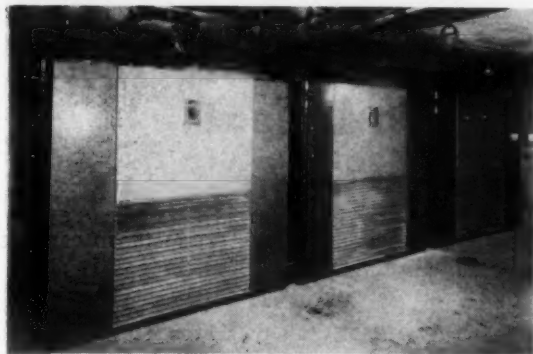
## Atlas Plywood CORPORATION

FROM AMERICAN FOREST TO FINISHED PRODUCT  
PLYWOOD CONTAINERS • FLUSH DOORS • HARDWOOD PANELS





## AIR CONDITIONING



MAGIC CITY Shopping Center installations include this one in the W. T. Grant store. Equipment consisted of 15-ton and a 10-ton G-E packaged units in addition to the three 15-ton units shown here.

### Shopping Center Cooling

*Not Knowing What Type of Business Is To Use Store Presents Problem for Installing Firm*

BARBERTON, Ohio—By their nature, shopping centers present a challenge to air conditioning installers and the Magic City Center here was no exception.

Magic City is a \$3,500,000 development consisting of 36 stores and several professional offices. A total of 450 tons of air conditioning is used to cool the entire project.

Because the type of tenant for each store was not known at the time of construction, the stores were built in various sizes and only side walls, partitions, and roofs were constructed. Roughing in of electricity and plumbing had to be as simple as possible.

As soon as each store was leased, Max Weisbrod of Refrigeration Distributing Co., Inc., Canton, Ohio, General Electric distributor who air conditioned the center, received an outline sketch of the store showing the front display windows, the partitions, and the storage area. Weisbrod then contacted each new tenant to ascertain how he planned to lay out his sales area.

From the time each lease was signed it was only about two weeks until the concrete floors were poured, ceilings put in, and the store completed.

Weisbrod, by careful advance planning, made it possible for his installers to move in with their packaged equipment and install it in predetermined locations as soon as the floors had hardened.

A great variety of applications were made necessary by the variety of types of businesses conducted in the center. Units are

installed in-space, out-of-space, on the selling floor, in storage rooms, and in basements.

Most stores in the center called for only one or two G-E packages to completely air condition them. However, one store, a member of the W. T. Grant chain, required 70 tons of cooling.

The W. T. Grant store includes a mezzanine, main floor sales area, and basement. Half of the basement is storage area and half sales floor. Air conditioning and heating of the basement was done with one 15-ton unit and a heating coil.

Because the basement was 140 ft. long, ductwork was necessary to carry cool air to all parts of it. This ductwork was installed out of sight in the storage half of the area.

During the cooling cycle only the discharge grilles facing the sales area were used and the storage area grilles were closed. In this way the proper number of air changes were maintained during the cooling cycle. During the heating cycle, discharge grilles in the storage area were opened as well.

The first floor sales area of the Grant store required 45 tons of air conditioning in three zones. Three units, each having 50% capacity modulation, are set in a mezzanine equipment room to provide this air conditioning.

Air distribution for the mezzanine area is through ceiling ductwork. Ceiling outlets are used. Heating is done by hot water coils from a central plant hot water boiler which furnished a source of heat for all the units in the store.

Heating and cooling for each zone are regulated by a single control for each 15-hp. unit. Office and rest room areas are conditioned by a 10-hp. packaged unit.

He estimates that he reduced installation time by 30% by using packages and predicted savings of 35% in upkeep costs because there are no refrigeration lines or seals to check and no motor lubrication is needed on the hermetically sealed motors.

### Jalenak Forms New Orleans Air Conditioning Sales Firm

NEW ORLEANS—Jay M. Jalenak has opened a new air conditioning sales firm in New Orleans—Jay M. Jalenak Engineering Co.

Jalenak, formerly employed with Chrysler Airtemp Corp. in Memphis, served as a lieutenant in command of the 388th Engineers Pipeline Co. in Korea. He is a member of the Memphis Engineers Club, American Society of Heating & Ventilating Engineers, American Society of Mechanical Engineers, National Society of Professional Engineers, and Society of American Military Engineers.

### G-E Appoints 3 to Field Sales Posts

BLOOMFIELD, N. J.—Appointments of Vernon Hagmann, Francis R. Vanlandingham, and Leland D. Krape as field sales representatives have been announced by General Electric Co.'s Air Conditioning Div.

Hagmann will handle the G-E "Weathertron" in the division's central region, according to Jack S. Beldon, division marketing manager.

Hagmann has been with G-E since 1930. Prior to his present appointment he was manager of a Weathertron factory branch in Chattanooga, Tenn. This factory branch was set up on a trial basis to gather marketing data and the Tennessee area has now been turned over to independent distribution (Radio & Appliance Corp., Nashville).

Hagmann will have his office in Kansas City, Mo., and will report to central region manager W. A. Mulcock in Chicago.

Vanlandingham will handle Home Heating & Cooling Dept. products in the G-E division's southeastern region. Prior to his present appointment, he was a sales representative with Mechanical Contractor Supply, Inc., a G-E distributor. He will have his office at 410 Red Rock Bldg., Atlanta, and will report directly to Paul M. Hooven, manager of the southeast-

ern region, the firm indicates.

Krape will handle Home Heating & Cooling Dept. products in the G-E division's south central region. He has been with G-E since 1941. Prior to his present appointment, he was the division's product service representative in the Dallas, Texas area. He will have his office in Dallas and will report to regional manager E. J. Guillory in New Orleans.

### Caccamo Is President of Florida Contractor Group

TAMPA, Fla.—Charles Caccamo, president and general manager of Southern Equipment Corp., is the new president of the West Coast Air Conditioning & Refrigeration Contractors Association. J. Arthur Turner is the retiring president.

Other new officers: Richard A. Stenholm, vice president, and Charles L. Dugan, of Krauss Air Conditioning, Tampa, secretary-treasurer.

### New Jackson Office Bldg.

*Completely Air Conditioned*

JACKSON, Miss.—The new 10-story Milner building, completely air conditioned, was officially opened for public inspection recently.

The building is the first major commercial office structure to be built in Jackson since 1929.

### Gould Appointed To Head Frigidaire Research Div.

DAYTON—R. E. Gould has been named assistant chief engineer in charge of the research and future products division of Frigidaire, according to Mason M. Roberts, Frigidaire general manager and General Motors vice president.

Other organizational changes announced were: H. E. Van Scoyck, assistant

chief engineer, commercial and air conditioning engineering divisions, and E. F. Schweller, assistant chief engineer, household engineering.

Gould has been assistant manager of direct factory sales since 1953. He was previously manufacturing manager for Aeroproducts Operations, Allison division of General Motors here. Prior to his association with Aeroproducts Operations in 1945, he held various positions in Frigidaire's engineering department for 15 years.

### Office Bldg. To Get Cooling

BIRMINGHAM, Ala.—A new office building at Five Points West Shopping Center will be air conditioned, according to Architects Caldwell and Harmon.

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WALL WIRE PRODUCTS CO. PLYMOUTH, MICHIGAN







## 7 Steps In Diagnosis

### Four Common Ailments of Commercial Refrigeration Systems Analyzed

WICHITA, Kan.—Seven simple steps for diagnosing the four common ailments of commercial refrigeration systems were outlined before the Mid-West RSES association at its sixth annual meeting here by Don Schaefer of the training department, Frigidaire Div., General Motors Corp.

#### Causes for 95% of Calls

"Better than 95% of all service calls on commercial equipment," he said, "are caused by (1) suction pressure being too low, (2) head pressure being too high, (3) shortage of refrigerant, or (4) moisture in the system.

"These give rise to such common complaints as: the unit runs constantly, starts and stops, fixture is too warm or too cold, product dries out or is slimy, unit won't operate, etc.

"Actually, diagnosis is most important in servicing," Schaefer emphasized. "Otherwise you're just feeling around in the dark. Don't replace a component, for example, without knowing why the component failed. Otherwise, it's likely to fail again, Schaefer further advised.

"You must have a good background in the fundamentals and theory of refrigeration before attempting to diagnose a job, and you must have the proper tools and instruments. Keep these clean, in good condition, and properly calibrated."

The "seven simple steps" of diagnosis, he said, were:

1. Check fixture temperature.
2. Check products stored.
3. Check suction pressure.
4. Check head pressure.
5. Check condensing medium (air or water) temperature.
6. Check pulley size.
7. Check refrigerant supply.

"In checking the fixture temperature the average serviceman often merely checks the air temperature within the fixture," Schaefer commented. "This does not necessarily give the true picture, so it is necessary to check the temperature of the product itself, and only after it's been in the fixture for some length of time—24 hours at least."

#### Product Is Factor

The type of product stored in the fixture is a most important factor in determining the temperature to be held in the fixture, and—more important—the temperature differential between the product temperature and the temperature of the evaporating refrigerant.

Since Schaefer's discussion was limited to "normal" or above-freezing temperature fixtures, he gave only the four following product classifications and the recommended differentials—which vary with the type of coil employed:

I. High humidity fixture for fish, eggs, leafy vegetables, etc.

Gravity coil: 14° to 18° t.d.

Blower coil: 6° to 8° t.d.

II. Retail market coolers for general use:

Gravity coil: 18° to 22° t.d.

(With rapid turnover, at least once every 24 hours, the t.d. can be as high as 29°).

Blower coil: 8° to 12° t.d.

III. Carcass meat cooler:

Gravity coil: 22° to 27° t.d.

Blower coil: 12° to 20° t.d.

IV. Bottle and canned goods:

Gravity coil: 27° t.d. or more.

Blower coil: 12° to 20° t.d.

(Although the amount of t.d. is not a factor that can cause drying out of bottle or canned goods, be careful not to have a t.d. so great that it will lead to coil frosting problems, Schaefer cautioned.)

Referring back to the four common causes of most complaints, he said that low suction pressure can cause:

1. Improper temperature or humidity.
2. Excessive operating cost.
3. Improper oil circulation.
4. Improper frosting and defrosting of the cooling coil.

"When the suction pressure is too low, one or all of the following can be the cause," Schaefer explained:

1. Switch setting is too low.
2. Shortage of refrigerant.
3. Temperature of refrigerant at cooling coil outlet is much warmer than at inlet to coil.

"On the latter problem check

the superheat setting," he advised. "On forced air coils this should be 3° to 5°; on wet type gravity coils, 5° to 7°; on dry gravity coils, 8° to 12°; on bare pipe coils, 10° to 20°."

If the head pressure is too high, Schaefer continued, it can cause:

1. High operating cost.
2. Repeated motor trouble.
3. Belt troubles.
4. Improper defrosting (fixture being too warm).
5. Fixture too cold.
6. Not enough capacity.
7. Water valve stays open.

High head pressure, Schaefer said, can be caused by:

1. Air in the system, or
2. Restricted air circulation through an air-cooled condenser, or
3. Dirty or improperly adjusted water valve on a water-cooled system, or
4. Too much refrigerant, or
5. A combination of the above conditions.

#### Air = Moisture

"Air in the system," he explained, "can result in long or continuous operation, high head pressure, high wattage, or the fixture's being too warm."

"And if there's air in the sys-



tem, there's very probably moisture too. The latter can cause intermittent warming up of the coil on 'Freon-12' systems as the moisture freezes at the expansion valve, and it will also cause corrosion of internal parts on 'Freon-12,' 'Freon-22,' and sulphur dioxide systems.

"Shortage of refrigerant can cause low suction pressure and its resultant difficulties; excessive wear of the expansion valve; improper fixture temperature.

"If the expansion valve stays open all the time because of a shortage of refrigerant, the constant flow of refrigerant through the valve will also tend to wear out the valve parts faster than normal.

"A sight glass is about the best way to check the refrigerant supply, but a shortage of refrigerant may also be indicated by (1) the suction pressure's being too low, (2) wide superheat between cooling coil inlet and outlet, (3) head pressure's being too low, or (4) a hissing noise at the expansion valve or float valve.

"In checking systems for high

pressure, you should check the operating head pressure as well," Schaefer also suggested. "It is best to have a table from the condensing unit manufacturer to determine what the operating head pressure should be, but a rule-of-thumb method can be used if necessary.

"Take the temperature of the condensing medium—air or water—add 25°, and convert this sum to the corresponding pressure for the refrigerant used.

"This is not 100% accurate, however," he cautioned. "On air-cooled machines this air temperature should be taken at the condenser itself; on water-cooled jobs, check the water temperature directly at the inlet and outlet of the condenser.

In order to obtain an average suction temperature on a system," Schaefer said, "add 3 p.s.i.g. to the pressure shown on the gauge when the machine cuts out and convert the sum to temperature.

"In checking pulley sizes, you must know whether the compressor was designed for low, medium, or high back pressure operation."

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1954

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**HOW IT OPERATES:** Modulating feature limits suction pressure at compressor to recommended or desirable maximum for the condensing unit motor. At conditions of overload, valve modulates to prevent suction gas pressures at the compressor inlet rising above that for which the valve is adjusted. When overload condition has passed and suction pressures drop below valve setting, valve automatically assumes wide-open position during remainder of cycle, or until another overload condition is encountered.

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For 3-ton size 1 1/8" and 1 3/8" O.D. solder



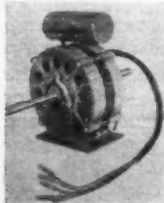
## What's New

When requesting further information on new products, please use "Information Center" form.

### New Motor Designed for Window Air Conditioners

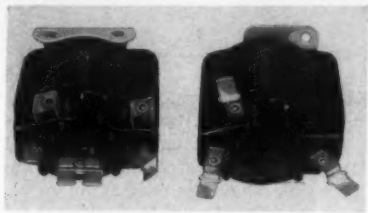
KEY NO. D-11310

RACINE, Wis. — A permanent split capacity motor designed particularly for window type air conditioners that is claimed to have much improved performance characteristics has been introduced by Howard Industries, Inc. here.



The model 6000 motor is made in 1/2-hp. size for window units of 3/4 to 1 1/2 tons capacity and in a 1/20-hp. size for 1/3 and 1/2-hp. coolers. Power factors are from 96 to 98% and efficiency is 54 to 55%, the company says.

Asserting that its motor will operate at 20° C., Howard states that this cool operation has made it possible to supply "life time" oiled bearings. High starting torque is also featured. The motor's characteristics make it completely silent when mounted in a window air conditioner, the firm claims.



### R-B-M Terminals Cut Assembly Costs

KEY NO. D-11311

LOGANSPOUT, Ind. — R-B-M Div. of Essex Wire Corp. has announced the availability of male quick disconnect terminals on their potential motor starting relays.

"With the introduction of these quick disconnect terminals," it was stated, "R-B-M is keeping abreast of the increasing trend in the appliance industry to lower assembly costs."

"These quick disconnect terminals will fit female connections of the ARK-LES or AMP type. They are available with either horizontal or vertical connections and are lower in cost than comparable screw terminals."



### Admiral Freezer Has 5 Refrigerated Shelves

KEY NO. D-11312

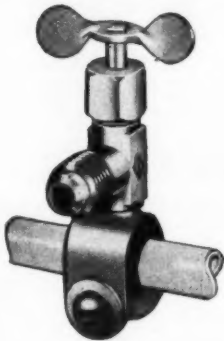
CHICAGO — Admiral Corp. has introduced a new 11 1/2-cu. ft. upright freezer with five refrigerated shelves and a "Glacier Blue" interior with a suggested eastern list price of \$279.95.

There are two transparent door shelves for storage of juices and small packages of food.

According to William Doyle, sales manager of the company's freezer and room air conditioner divisions, the new model is \$120 less than the deluxe 11 1/2-cu. ft. model in the current line.

Model 11CUFT has a capacity of 402 lbs. of frozen food. The vented shelves are said to permit even circulation of the zero-cold air and are trimmed in gold color, according to the company.

A red warning light on the front of the door goes out whenever proper temperature is not maintained due to power failure.



### Imperial Announces New Hermetic Piercing Valve

KEY NO. D-11313

CHICAGO — A new hermetic piercing valve, for use in charging, testing, and purging hermetically sealed units, has been announced by the Imperial Brass Mfg. Co. here.

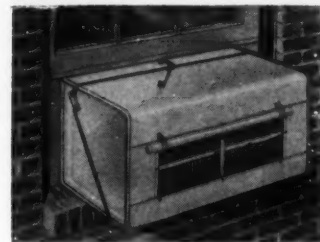
The valve is the multi-size type and one valve fits three different sizes of tubing—1/4 in., 3/8 in., and 1/2 in. o.d. This makes for exceptional convenience in accomplishing service work.

The unit can also be used for applications where it is desirable to tap into a tubing line. Double lead thread provides fast operation, according to the company.

Valve clamps on tubing line and neoprene gasket provide a tight seal. One end of charging line is attached to 1/4-in. flare connection on valve and other end to testing

unit or refrigerant drum. Valve stem is turned forward until sharp needle pierces tubing. Stem is then backed off for charging or testing. After service is completed valve is closed and is left on line for quick, convenient future service, it is further explained.

The new valve is designated No. 340-C and is described in Bulletin No. 113-REF.



### Ero Room Cooler Covers Available for All Models

KEY NO. D-11314

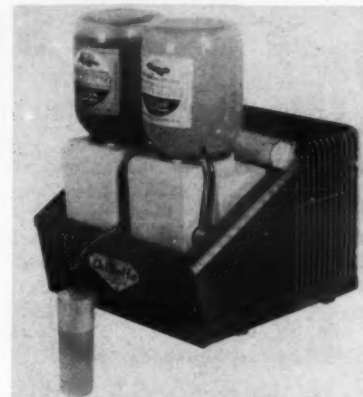
CHICAGO — An all-weather cover designed to protect window-type room air conditioning units against winter rust and deterioration is now being marketed by Ero Mfg. Co. here.

"Made of a specially developed tough, 22-oz. vinyl plastic-coated material, the Ero cover is completely weatherproof, able to withstand water, fire, or cold without mildewing or cracking," the company said.

"Installation is quickly and easily accomplished from inside or outside the room, requiring no special skill or tools."

"Ero covers are available to fit every popular make and size of room air conditioner, in both closed and exhaust-flap styles. Each cover comes packed in a large, colorful box that does double duty as a self-selling counter or window display."

"Popularly priced for volume sale, this new item also makes an excellent premium or bonus to stimulate sales of new air conditioning units and similar products."



### 2-Flavor Dispenser Has 4-Gal. Capacity

KEY NO. D-11315

PITTSBURGH — A twin flavor refrigerated drink dispenser for non-carbonated, non-settling beverages has been introduced by the Du-Donne Mfg. Co. here.

Called the "Chillette" model 20, it occupies a 16-in. square counter space and stands 12 1/2 in. high, not including the gallon jugs, which are not furnished.

A 1/6-hp. sealed compressor that operates on 110 volts, 60 cycles, a.c., is built into the unit. Defrost water and condensate are evaporated into the room air after the defrost cycle, the manufacturer notes.

The Chillette has a 4-gal. capacity; two chilling and two in reserve in inverted jugs. Average chilling time from room temperature to serving temperature is one hour after the initial pull-down.

The tilt-spout faucets do not project beyond the cabinet when not in use. The company claims that they will not drip and will fill a 12-oz. glass in five seconds.

Each ceramic dispenser jar is removable for cleaning and the faucets are quickly demountable. Both interior and exterior of the unit are aluminum. The bottles are illuminated from behind to attract attention.

Installed price of the Chillette is \$185, plus state and local taxes.

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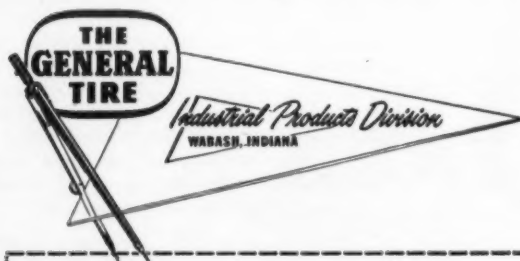
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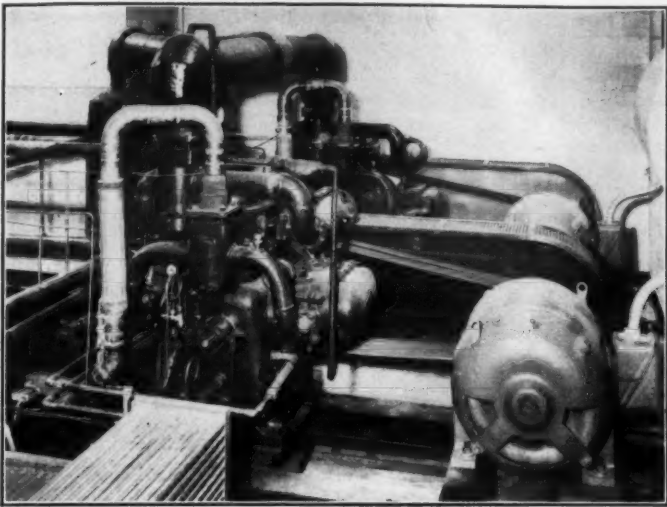
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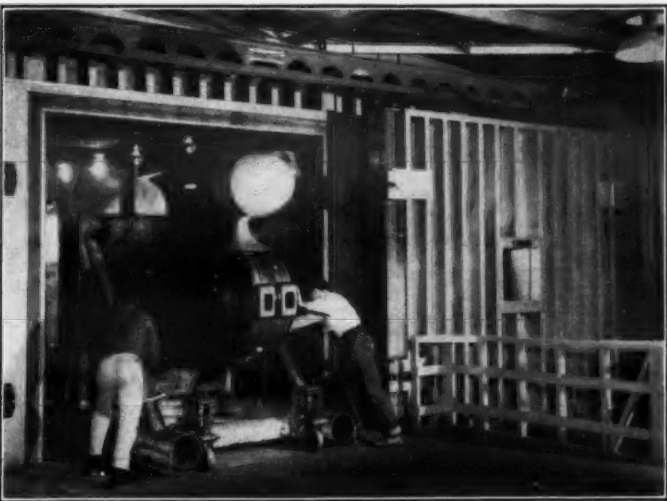
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PHOTOGRAPHS above and below show the pair of Frick compressors, the condenser, and a radar-controlled gun turret being pushed into the Tenney stratosphere chamber.



## Stratosphere Chamber Uses Cascade System

CINCINNATI — An unusually large stratosphere chamber was installed recently by Tenney Engineering, Inc. for the Crosley Div. of Avco Corp. here.

The chamber measures 19 ft. 6 in. by 22 ft. by 15 ft. high. Altitudes to 80,000 ft. can be simulated and the temperature can be held at any point desired between -100° F. and 200° F.

Refrigeration is supplied by a cascade system, with "Freon-13"

in the first or low stage and "Freon-12" in the second. It is said that this is the first time a cascade refrigeration system has been applied to a chamber of this type.

The "Freon-12" load is carried by two Frick 9-cylinder "Eclipse" compressors, with 65-hp. motors. The machines operate in parallel and cool the condenser of the "Freon-13" system, which is a Frick shell vessel with U-tubes inside.

## Food Engineering Names Bowles Sales Manager

MANCHESTER, N. H. — Food Engineering Corp., manufacturer of an automatic bulk milk vending machine, has announced the appointment of Raimond Bowles as sales manager.

Bowles, who will announce plans for national distribution of the milk vending machine in the near future, has had his previous experience in national political positions.

He was most recently administrator of government contracts for Northeastern Engineering, Inc. Prior to that he had served in Washington, D. C. as chief clerk of the Senate Banking and Currency Committee, executive assistant to the Eisenhower National Committee, and assistant to the chairman of the Republican National Committee.

## Puerto Rican Refinery Orders Carrier Equipment

SYRACUSE, N. Y. — Refrigeration and wet gas feed compressors for a new oil refinery under construction in Puerto Rico, for Commonwealth Oil Refining Co., will be supplied by Carrier Corp., it was announced recently.

The order includes three Carrier centrifugal gas compressors. One hydrocarbon compressor, driven by a 1,250-hp. motor, will supply refrigeration for the refinery's Alkylation process. The other two compressors, one of 2,500 hp. and the other of 3,000, will operate in series as wet gas feed compressors for the Houdry catalytic process.

The refinery, at Guayanilla Bay, 15 miles west of Ponce, will be the largest in Puerto Rico. When completed in late 1955, it will process about 25,000 barrels daily of Venezuelan crude oil.



## Sub-Zero Chilling Unit Provides Big Capacity

CINCINNATI — A new large-capacity, low temperature chilling machine has been announced by Cincinnati Sub-Zero Products here.

The chilling chamber size of the new unit is 36 in. by 42 in. by 36 in. deep, providing 27 cu. ft. of usable space. It was pointed out by the manufacturer that the unit is unusually compact in view of its large capacity. Exclusive of an outside-mounted agitator motor, the over-all dimensions of the machine are 96 in. long by 60 in. wide by 48 in. high.

Adjustable temperature control is provided from -70° to -150° F. Thermal capacity is 8,000 B.t.u./hr. at -120° F. This is sufficient to chill 200 lbs. of steel per hour from 80° to -120°, the company said.

The new unit is specifically designed for large heat-treating operations. The first model has been installed in an eastern aircraft plant, primarily to be used in the heat-treating room, for trans-

formation of austenite to martensite in high alloy steels. Further work is planned on normalizing of non-ferrous castings of large size.

"For use with convection fluid, a 1/2-hp. agitator is mounted in the left rear corner of the chilling chamber," the company stated. "A specially designed draft tube and fillet on the agitator provide for controlled flow of convection fluid and uniform rapid cooling. For draining of convection fluid, a 3/4 in. drain has been placed in the bottom of the chilling chamber leading out to a valve located in the rear.

"When the unit is used without convection fluid, an air circulator mounted in the lid, with inlet and outlet ducts entering directly into the chilling chamber, speeds chilling and prevents stratification of air."

Instrumentation consists of a recording controlling thermometer graduated from -150° to 50° F. The new model features all steel construction. It is powered by two 2-hp. motors. The chilling chamber is of special heavy gauge steel to withstand fatigue of loading large heavy parts.

## Betz Names David Gold, R. J. Murray, R. L. Hodapp

HAMMOND, Ind. — Betz Corp. announces the appointment of David H. Gold as its new chief engineer. A graduate of Bucknell university, Gold formerly worked for the Carrier Corp. in its research and de-



R. J. Murray



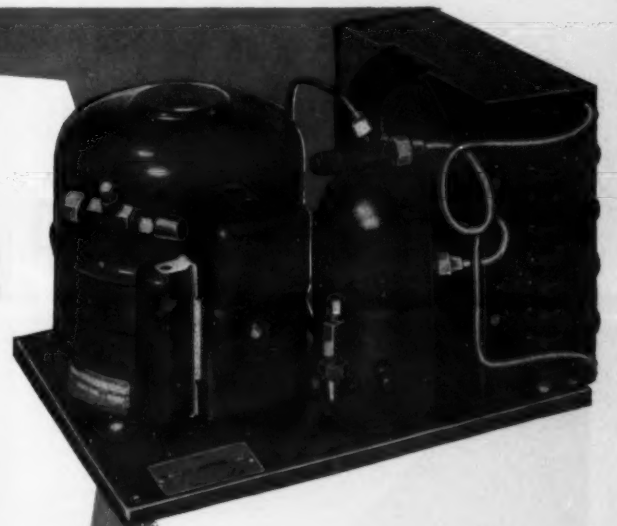
David H. Gold

velopment laboratory and later was appointed assistant chief engineer of Aero-fin Corp.

Betz also announces the appointment of Raymond J. Murray to its management staff. Murray formerly served as plant superintendent of the Coolerator Co. in Duluth, Minn.

Robert L. Hodapp, chief engineer of the company for the past four years, has assumed the duties of assistant sales manager. Working out of the Hammond office, Hodapp will cover Indiana, Michigan, Ohio, West Virginia, Kentucky, Pittsburgh, Buffalo, in addition to Missouri, Kansas, and Texas, the manufacturer further stated.

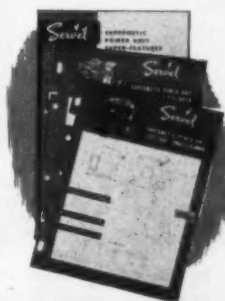
# Servel SUPERMETIC for Money-Saving Performance



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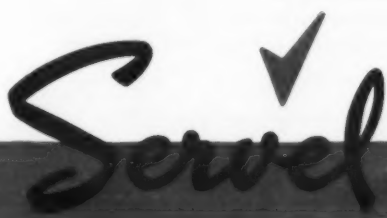
- **EXTRA-COMPACT**, hermetic design saves valuable space — lightweight construction permits "stacking" of units in remote installations.
- **EXTRA-TIME-SAVER**, easily accessible controls have long capacitor leads — only wiring required is to connect supply line to 2 terminal posts.
- **EXTRA-QUICK**, availability of condensing units and all installation supplies from more than 100 conveniently located Servel Authorized Wholesalers.
- **EXTRA-SALES**, promotion aids provided by the factory include direct mail literature, full-line catalogs, installation manuals, decals, and displays.

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WRITE FOR LITERATURE about Servel's fully sealed hermetic electric condensing units in both medium and low temperature models to fit any commercial expansion valve system from 1/4 through 1 HP; also capillary tube type units in 1/4, 1/2 and 1/2 HP sizes for manufacturers of small refrigeration fixtures.

CUT MAINTENANCE COSTS for any user of commercial electric refrigeration, and you've won a steady customer for repeat sales. Because SUPERMETIC is so downright simple in design, so durable in construction . . . so well guarded against wear and friction by Servel's famous built-in lubrication . . . you can count on every unit you install to deliver a full measure of money-saving performance. These same SUPERMETIC features pay off heavily in your favor, too. You handle every installation faster and easier. You have far fewer "call-backs" to bring down your profits. So why not boost your stock with your trade the tried and proved way . . . Switch to SERVEL SUPERMETIC — starting right away!



Inc., COMMERCIAL REFRIGERATION DIVISION, EVANSVILLE 20, IND.

THE NAME TO WATCH FOR GREAT ADVANCES IN REFRIGERATION AND AIR CONDITIONING

for a variety of applications use

## MIDWEST CENTRIFUGAL PUMPS

- EVAPORATIVE COOLERS
- CONDENSATE PUMPS
- BEVERAGE COOLERS
- HUMIDIFIERS
- TO YOUR SPECS.



25-42-50-60 CYCLE  
6-12-110-220 VOLT AC-DC  
HEADS UP TO 10 FEET  
GPH UP TO 225 GAL. AT 6 FOOT

We solicit inquiries

TECH-TRON CORP.

LAWRENCE, KANSAS



## What Was New

### At the Dairy Show



FOOLPROOF FOOT-OPERATED PORTION control for dispensing from a soft ice cream maker, demonstrated here by Mrs. Robert McAllister, is a feature of this Sweden Freezer Mfg. Co. model. In operation, owner-made adjustments determine two different portion sizes that employees will use in making up fountain dishes. Toe-pressure on the triple-action foot-switch delivers the proper amount of product.

—KEY NO. D-1130—



NEW DESIGN FEATURES mark the Monitor Process Corp.'s new model "F" bulk milk dispenser. Among the features in this model, which has double 20 cans, are a new removable plastic easily cleaned dispensing section, and new push control, being demonstrated here by Mrs. J. F. Culver, wife of Monitor's president.

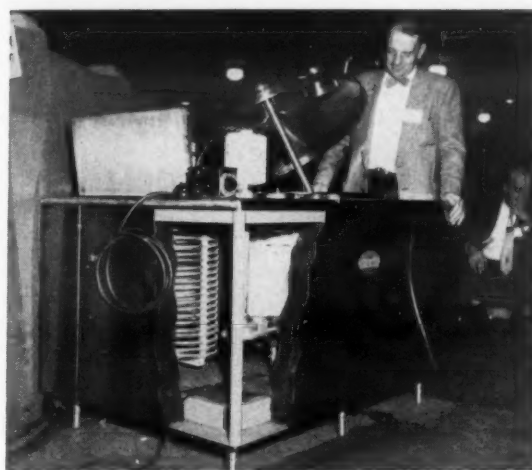
—KEY NO. D-1131—

For further details on any of the items pictured on these two pages use the "Information Center" form on page 14, referring to the key number accompanying the picture. First pictures of the 19th Dairy Exposition appeared in the Nov. 8 issue. Additional pictures from the show will be published in a later issue of the NEWS.



LOOKING OVER THE NEW Mohawk Cabinet Co. self-defrosting ice cream merchandising cabinet is Charles Shannon of Abbotts Dairies, Baltimore, comparing notes with Ed A. Burtaine, representing Mohawk.

—KEY NO. D-1132—



JUST BEING INTRODUCED by the Rite-Way Dairy Div. of Package Machinery Co. is this new design of farm bulk milk coolers. The one which John Clark of the company demonstrates is a 75-gal. model, which will take care of the needs of the "10-cow producer." Other models have 125 gal. and 200-gal. capacity. The water-bath cooling principle is used in these models, making possible the use of a smaller freezer and eliminating the possibility of freezing the milk, spokesmen for the company further indicated.

—KEY NO. D-1133—

hot-dip  
for

every inch  
galvanized steel

longer life and top performance

The unsurpassed durability and maintenance-free life of Acme Cooling Towers results from the strict attention to detail long associated with Acme production and engineering. First, Acme Cooling Towers are constructed of heavy-gauge steels for maximum, rigid strength. Then after the unit is completely fabricated, the tough weather-resistant hot-dip galvanized finish is bonded to enable the unit to withstand the most severe weather conditions.

This permanent bond of zinc actually adds to the metal thickness and structural strength of this Acme all-steel unit. There is not a particle of wood in the unit to rot. There are no painted surfaces to rust away or require repainting. There is only this durable, all-steel, permanently protected unit to give you more years of peak performance.

## COOLING TOWERS

Add to the rugged durability of Acme Cooling Towers all these extras and you understand why they are first in their field. Exterior-mounted, over-size ball bearings; integrally-mounted, custom designed pump; external sump — easily accessible for servicing; conveniently located water treatment basket; removal sediment screen; an automatic waste, drain and overflow; quiet-running, constant velocity blowers; weather protected blower motor; non-clogging low-pressure nozzles; adaptable for front, top, or rear discharge; large convenient access doors; wetted metal deck principle — fastest heat transfer.

Capacities range from 15 to 70 tons. Smaller capacities are available in the equally rugged and efficient Acme Flow-Cold Cooling Towers, 2 to 15 tons.

save water with *Acme*

- ☐ Acme Catalog on large capacity cooling towers
- ☐ Acme Catalog on Flow-Cold cooling towers
- ☐ Acme Catalog on Evaporative Condensers

Name .....  
Company .....  
Address .....  
City ..... State .....

**ACME INDUSTRIES, INC.**  
JACKSON, MICHIGAN

Manufacturers of Quality Air Conditioning and Refrigeration Equipment since 1919

Evaporative Condensers	Shell-and-Tube, Shell-and-Coil Condensers	Heat Exchangers
Cooling Towers — 2 to 70 tons	Flow-Cold packaged Liquid Chillers to 15 tons	Liquid Receivers
Flow-Cold Unit Coolers	Flow-Therm packaged Liquid Chillers to 220 tons	Flow-Temp Heat Pumps
Dry-Ex (direct expansion) Liquid Chillers		Remote Room Conditioners
		Oil Separators



THIS SEAL IS YOUR  
**GUARANTEE**  
When Quality is a Must in  
Finished Die Castings



America's great industries demand quality, quantity and fast delivery of finished die castings. That's why more than a score of leading manufacturers in the refrigeration, automotive, radio-television, appliance and plumbing fields rely on Grand Rapids Brass Company.

Two Grand Rapids Brass Company plants now produce more than 17,000,000 plated, finished die castings each month. If you require quality castings electroplated or baked synthetic lacquer finished delivered in large quantities on schedule, Grand Rapids Brass Company's design engineers and more than 1,000 skilled employees will prove of invaluable help.

• Write for complete details on the production capabilities of one of the largest die casting-finishing plants in the nation.

**Grand Rapids Brass Company**  
Grand Rapids, Michigan  
Division of Crompton Manufacturing Company

Suppliers to the Nation's  
Leading Automotive, Refrigeration and Plumbing  
Manufacturers





DESIGNED TO FIT A VARIETY OF APPLICATIONS requiring a soda fountain is this Stanley Knight soda unit, which has six syrup pumps and three crushed fruit jars. Shirley Connors demonstrates added feature, a bottom refrigerated storage compartment with refrigerated door shelves.

KEY NO. D-1134



SIMPLE OPERATING CONTROLS mark this Emery Thompson continuous soft ice cream maker. Here Parker E. Worrey of the company tells E. K. Wax of Keil Motor Co., Wilmington, Del., how the machine will make 400 ice cream cone fillings per hour.

KEY NO. D-1135



NEWLY FITTED WITH A "QUART RACK" to handle paper milk cartons is this Ideal Dispenser coin-operated vender, which is being looked over here by Mr. and Mrs. Nels Baden, Monarch Ice Cream Co., Wadena, Minn. The vender also has a new change-making coin mechanism.

KEY NO. D-1136



A POSTER TELLS THE STORY of the new 300-ton evaporative condenser introduced by Baltimore Aircoil Co., Inc. R. W. Pentecost, sales manager (l.) and John Engalitcheff, Jr., president, emphasize the big 300-ton capacity.

KEY NO. D-1137



THE SEVERAL NEW FEATURES in Carbonic Dispenser's new "Sodamaster" three-flavor carbonated drink dispenser are listed by George W. Rhoad of the company. Among the newest features is a "pump sentinel," a patented device which prevents pump burn-out when there is a freeze-up of the cooling coils or a failure of the water supply. Another feature is constant circulation of the water bath.

KEY NO. D-1138

(Many new products of the refrigeration industry which were shown at the Dairy Exposition in Atlantic City are pictured here. Another group of pictures will be published in a later issue. To obtain further details on any item use the "Information Center" blank on page 14 of this issue.)



STANDING BETWEEN Ace Cabinet Co.'s new self-defrosting ice cream and frozen food cabinet and new wall dairy case are Alex Unger, Ace president; and H. C. Epperson of the Union Ice Co., San Francisco.

KEY NO. D-1139

**Everfrost** THE FOUNTAIN LINE THAT SELLS  
"America's Choice"

It takes selling features to make those all important extra sales... the Everfrost fountain line offers you a complete range of fountain and drink dispensing equipment with ALL the features that put the extra punch in your sales story.

Model EB-510 Three Sink Bobtail

Model ED-40 40 gallon Creamer Unit

Model EB-31 Bobette Soda Fountain

We'd like to tell you how Everfrost equipment, backed up by aggressive national advertising and sales promotion, can bring more sales... more profit to your business. Investigate the Everfrost program right now... drop us a line and we will send you complete information on the world's most outstanding fountain and drink dispensing equipment... Everfrost.

**EVERFROST SALES, INC.**  
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**No. 1 Requirement—in any size unit**

an **HM** **CLEANABLE CONDENSER**

Water-Cooled Double Tube, Counter-flow

Regardless of whose condensing unit you buy—and regardless of its size—your first "must" is to insist that it have a **CLEANABLE** (water-cooled) condenser to help you maintain new-unit efficiency indefinitely. When you realize that use of a simple spiral tool, doing a thorough mechanical cleaning job, can always restore copper-water surfaces to their original heat-exchange efficiencies, you won't settle for anything less than a cleanable condenser. And especially so now since most major manufacturers recognize the demand for "Cleanable", and are equipping their units accordingly. Remember too, you can now count on surprisingly low initial cost that is made possible by Halstead & Mitchell's tremendous high productive capacity.

**CLEANABLE**—in all size capacities. All with seamless copper tubes, brass headers machined and brazed. Water tubes are accessible from either end.

**1/2 to 25-Ton Capacity**

**Halstead & Mitchell**

Wholesalers in Principal Cities—Write for descriptive literature

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## Wolverine Representative Square D Acquires Contacts Wholesalers Only Iowa National Mfg. Co.

CHICAGO—Ralph Julin, sales representative for Wolverine Tube, division of Calumet & Hecla, Inc., will now contact wholesalers only, in the greater Chicago area, announced E. J. Campbell, mid-western district sales manager for Wolverine Tube.

"This is the first time one of our men will be confined to selling a single facet of the industry," said Campbell. "We feel that this change will make it possible for us to give our wholesale customers better and faster service, and help us keep abreast of changing market conditions."



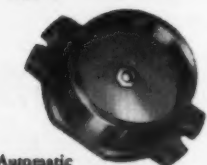
## KLIXON Protectors Build Dealer Confidence

KENNEBUNK, MAINE: Messrs. James V. Day, Pres., Spiller Distributors and Richard V. Dresser, Pres. of Dresser-Marsh Corporation, recommend Klixon protected motors for use in motor driven appliances. They say:

"It has been our experience that the mutual confidence of distributor and dealer in the selection of parts makes for better distributor and dealer relationship. With Klixon Protectors incorporated in motors, we share that confidence and find a minimum of service problems."



Manual Reset



Automatic Reset

### Klixon Protectors Reduce Service Calls and Repairs by Preventing Motor Burnouts

The KLIXON Protectors, illustrated, are built into the motor by the motor manufacturer. In such equipment as refrigerators, oil burners, washing machines, etc., they keep motors working by preventing burnouts. If you would like increased customer-preference, reduced service calls and minimized repairs and replacements, it will pay you well to ask for equipment with KLIXON Protectors.

**KLIXON**

METALS & CONTROLS CORPORATION  
SPENCER THERMOSTAT DIVISION  
2411 FOREST STREET, ATTLEBORO, MASS.

DETROIT—Square D Co. has acquired the property and facilities of Iowa National Mfg. Co. of Cedar Rapids, Iowa as a wholly owned subsidiary, it was announced recently by F. W. Magin, president of Square D.

As a part of the transaction, Square D will take over a 26-acre site on Lincoln Highway in the city's southwest section and complete a 112,000-sq. ft. manufacturing plant presently under construction by Iowa National.

Operations in Cedar Rapids will comprise an important phase of Square D's general expansion program, according to Magin.

Magin also announced the appointment of C. Howard Brittenham as plant manager of Iowa National. Brittenham was formerly plant manager of Square D's plant at Peru, Ind.

## New Process Creates Tubing Pattern In Single Sheet of Metal

### Olin Mathieson To Build Plant for Mass Production

NEW YORK CITY—Applications in the refrigeration and air conditioning field are seen as being among the major uses for a new development in metal working developed by the Metals Div. of Olin Mathieson Chemical Corp.

The new process is said to make possible the creation of any pattern of tubing within a single homogeneous sheet of metal. Olin Mathieson has begun construction at East Alton, Ill. of a plant to put the new process on a mass production basis, states Huntly Campbell, general manager of the Metals Div.

### NEW APPLICATION OF OLD ART

The process, a new application of the old art of roll bonding, has been used in the production of some 1954 household refrigerator evaporators. Olin Mathieson officials believe that the process will have application in such other fields as air conditioning, heating, insulation, and home construction.

Through the process, it is said, any pattern that can be drawn on a piece of paper can be reproduced as tubing within a metal sheet. As many as six sheets of metal can be bonded at one time. It is said that complicated parallel or multiple tubes, running at right angles in two or more layers, can be made efficiently.

### EVAPORATOR PLATE PRODUCTION DESCRIBED

How a refrigerator evaporator plate is produced by the new roll bond process at Olin Mathieson's East Alton plant is described as follows:

Two flat pieces of aluminum or copper are cut to size and cleaned. With the silk screen process, the pattern that will become tubing and other passages is applied to one of the flat sheets. The "paint" used to apply the pattern is a stop-weld material that prevents a surface painted with it from bonding to another piece of metal under heat and pressure.

The stop-weld material is applied as a painter applies paint to a stencil—squeeged onto the metal by a rubber roller. The two sheets are placed face-to-face to form a metal "sandwich." These are spot-welded to keep them together in the proper relative positions.

### 'SANDWICH' IS HEATED, ROLLED

The "sandwich" is heated and rolled. The first hot rolling produces a complete bond. Subsequent cold rollings reduce the now homogeneous sheet of metal to proper thickness.

Rolling operations elongate the pattern several times. The key to the operation, then, is to pre-plan a silk screen pattern, which, when elongated, will result in perfectly proportioned patterns.

After roll bonding, the fused material is annealed. Everything bonds except the area where the stop-weld pattern has been applied.

After annealing, one end of the

now elongated metal plate is trimmed. This bares the lead-in end of the stop-welded pattern. A needle, much like that used to inflate a football, is then inserted into the bared end of the stop-welded pattern.

The next step is to place the bonded plate between two heavy platens—flat plates of metal—in a hydraulic press. Hydraulic pressure is then applied to inflate the non-welded design. Areas where stop-welding has been applied become passageways. These passageways are an integral part of the material.

Passageways are then flushed out and cleaned to remove the stop-weld. It is then thoroughly dried internally.

Result is a labyrinth of dilated passageways which correspond to blueprint specifications.

### COST REDUCTIONS SEEN POSSIBLE

Because of the "radical" design changes that the process is said to make possible, the company claims that there are possibilities for considerable cost reductions. For example, the company says it is possible to build the header or accumulator right into the design. Also, the evaporator back as well as secondary circuit plate can be incorporated into the design and contain part of the system.

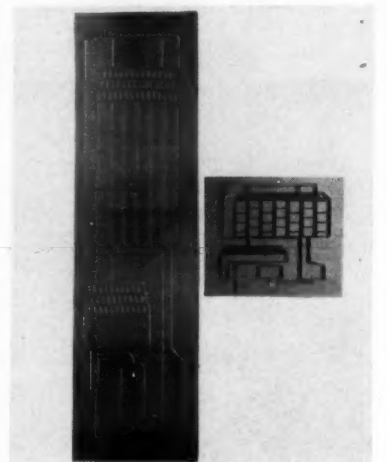
The development was not publicized up to the present time because patents for the process were approved only a few weeks ago. However, Frigidaire Div. of General Motors has been using roll bonded evaporator plates for its upright home freezer models for over a year.

Use of such plates is said to have particular advantages in conjunction with the use of automatic defrosting systems in refrigerators. Such systems require an absolutely tight seal or the defrost water will get into the tubing, causing freeze-ups. With the roll bonding process the possibilities of any openings permitting the entrance of moisture are virtually eliminated, it is said.

One of the big elements of savings inherent in the use of the process, it is said, is in the original and replacement tooling and die costs.



EVAPORATOR PLATES are flushed internally to remove all traces of stop-weld material. Plates are then trimmed, tested, and ready for shipment. More than 250,000 of these plates have been produced during the past 18 months at Olin Mathieson's pilot plant in the Western Brass Mills, East Alton, Ill.



FINISHED EVAPORATOR PLATE is shown at left and one-half of the "sandwich" from which it is made, at right. Stop-weld pattern has been applied to the sheet at right. The finished plate was made by adding the other half of the "sandwich" (a clean aluminum plate of the same size), rolling to bond the two sheets (thus squeezing it out to the length at left) and dilating the "stop-weld" pattern with hydraulic pressure.

## Tranter Names FitzGerald Kold-Hold Sales Director

LANSING, Mich. — Joseph M. FitzGerald has been named sales supervisor of Kold-Hold Div., Tranter Mfg., Inc., the company announced recently.



He had been sales supervisor of Tranter's Contract Div. In his new capacity, he will direct sales of Kold-Hold truck plates, serpentine plates, and Kold-Trux mobile equipment for trucks and trailers.

A graduate of the University of Michigan and a World War II Air Force veteran, FitzGerald was sales promotion and advertising manager of Lonergan Mfg. Co. and Refrigeration Corp. of America, both of Albion, from 1948 to 1950.

He was manager of government sales for Lonergan from 1950 to 1951, and was regional sales manager of the distributor and contract divisions of Lonergan from 1951 to 1952.

## OVER 50,000,000 RANCO CONTROLS IN USE!

RANCO controls give dependable, trouble-free service. That's why more than 50,000,000 are now in use throughout the world. RANCO controls are designed and precision-built by refrigeration specialists to provide accurate control for every job. They eliminate call-backs and increase your profits. And remember this . . . RANCO controls are available for almost 5,000 replacement installations.



**Ranco Inc.**

COLUMBUS 1, OHIO

WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

010-1402  
Low Pressure  
Cut-In Commercial  
Control

Like all Ranco commercial controls, compact and sturdy constructed, and adaptable to installation requirements.





## St. Louis Water Works Asks for Surcharge on Some Cooling Equipment

JEFFERSON CITY, Mo.—The Missouri Public Service Commission recently took under advisement the request of St. Louis County Water Co. for authority to collect an annual surcharge of \$40 per ton capacity of air conditioners not equipped to conserve water.

W. Victor Weir, president of the company, told the commission the company was not seeking the surcharge for higher revenue but to require users of such equipment to change over to more economical use of water.

He said the company was faced with the problem of expanding its plant equipment to meet rapidly increasing water demands due in part to the increase in use of air conditioners.

"We have had a black eye a couple of times by having to ask consumers to curtail water use in hot weather," he added.

Herman Barken, associate city counselor of St. Louis County, stated that the County Council was opposed to any surcharge unless the commission in its investigation should find a general rate increase would be necessary to meet requirements.

Company exhibits showed a sharp increase in use of water, including higher demands for non-conserving air conditioning installations. Last year, 900 such installations out of 102,000 customers used 8½% of the water demand in hot weather, it was said.

### JUST ASK US!

Turn to "What's New" Page for useful information on new products.

## Honesty Gets More Than Lip Service From Carl Lipp

WASHINGTON, D. C.—District Plumbing Board Chairman Carl C. Lipp recently asked to be arrested for violation of the plumbing code.

Lipp, a prominent plumber in his own right, said his employees had installed a water pipe without a permit in an air conditioning system while working for James Refrigeration Co. Penalty for conviction would be a fine of \$100 to \$300, according to the corporation counsel.

"I have made reports on some of my best friends—when the law hits me, I can't help it," Lipp said.

Like scores of others, his own company's violation came to his attention as plumbing board chairman, he said. He promptly reported it to Leo A. O'Neal, chief plumbing inspector, and sent copies of this letter to Engineer Commissioner Louis W. Prentiss and General Administrations Director Schuyler Lowe.

Chairman Lipp explained that he had warned his employees always to take out permits for plumbing jobs. But he failed to check up on them because he had been so busy acting as plumbing board head, he added.

A. D. C. refrigeration inspector, H. G. Walker, discovered the violation. Lipp readily admitted the "oversight."

Lipp insisted he would not forfeit collateral, but would take his case to court if summoned. Generally, such violators are given informal hearings before Assistant Corporation Counsel Clark King.

If King thinks they are guilty, he accepts collateral payments or sends them to court.



## Auto Air Conditioning Is Booming Business, A.R.A. Official Says

FORT WORTH, Texas—A.R.A. Mfg. Co., producer of automobile air conditioning systems, reported net earnings of \$611,201.86 for the period between Feb. 1, through Sept. 1, an increase of \$100,669.05 over the entire 12 months of last year, Frank G. Newman, executive vice president, has announced.

A.R.A.'s sales for the eight months reported this year totaled \$2,829,786.66 compared with \$1,600,704.05 for all of 1953. The company, which manufactures air conditioners for passenger cars, sold 6,526 units through Sept. 1 as against 3,992 units for the 12 months of 1953.

Early this year A.R.A. was purchased from O. P. Leonard of Fort Worth, who founded the company in 1949, by ICT Insurance Co. of Dallas, which officially took over operations on Feb. 1. Since its organization five years ago, A.R.A. has had an average annual sales

increase of 116%, Newman said.

"Much of A.R.A.'s increased volume this year can be directly attributed to the growing acceptance of automobile air conditioning in other warm weather states besides Texas," reported Newman. "While Texas still accounted for a good part of our volume, cities in just about all of the southern states showed up on our customer distribution charts," he added.

Newman called automobile air conditioning "a boom within a boom." The true potential of this segment of the air conditioning industry will not be effectively tapped for several years, he said.

While he anticipated increased competition from the automobile manufacturers who have already indicated that they would market factory-installed air conditioning units of their own next year, Newman said he felt certain that a package unit such as A.R.A. would have more of a market than it could possibly accommodate for at least the next five years.

A.R.A. recently announced plans to construct a new ultra-modern plant of 31,250 sq. ft. in Weatherford, Texas, which should be completed by March 1, 1955.

## Pearce Heads New Insulation Division At Armstrong Cork

LANCASTER, Pa.—To provide greater concentration of selling effort on its growing insulation



A. E. Pearce

business, Armstrong Cork Co. has created a separate Insulation Div. headed by A. E. Pearce as general sales manager.

The new division is composed of two departments—Industrial Insulation, with J. W. Liddell as manager; and Equipment Insulation, headed by L. E. Cover.

H. R. Peck, vice president and general manager of the Building Materials Div., announced the Armstrong move, which took the form of creating two new divisions—the Insulation Div., and a Building Products Div.—out of the Building Materials Div. The Building Products Div. will handle the company's lumber dealer products and acoustical materials.

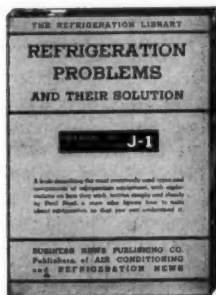
All Building Materials district managers have been transferred to the new Insulation Div. and will give their full time to the development of insulation business, it was indicated.

## REFRIGERATION PROBLEMS

AND THEIR SOLUTION

by PAUL REED

ONLY \$1<sup>50</sup> EACH



Make it work! When you're stopped by a tough problem use these practical reference books with a load of factual information about every refrigeration problem you'll meet as a serviceman or salesman. For years Paul Reed has been supplying the answers in his weekly column in AIR CONDITIONING & REFRIGERATION NEWS.

Now this fund of knowledge can be yours in this 5-volume set. Order all now—or one at a time.

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11-15-54

## General Electric Packaged Air Conditioning DEALERS LEAD IN BIG MONEY ON G-E PROFIT SPEEDWAY

G-E Dealers move ahead of competition with top product, terrific sales aids!

General Electric dealers forge ahead in the race for the packaged air conditioner market! That's because they are parlaying G.E.'s exclusive advantages and special helps (see right) into one of the industry's most tremendous growth records. As a result, G.E.'s share of the market has doubled in the last two years!

What's more, this sensational growth isn't just seasonal—it's all year round! That's a fact G-E dealers especially like because it means bigger year-round profits. The secret of this success lies in G.E.'s close teamwork with its dealers—because G.E. knows that any company is only as good as the dealers who represent it.

**MORE POWER TO YOU!**  
new G-E dealer profit-plan shows you how to get year-round sales...

In this single volume G.E. has packed a wealth of valuable sales information—tried-and-true tips and suggestions for building year-round profits...plus the actual tools that make success easy! It's a natural for you—we urge you to look it over!

Progress Is Our Most Important Product

GENERAL ELECTRIC



# Packaged AIR CONDITIONERS

ONLY G.E. HAS  
ALL THESE  
SALES STARTERS



**Dealers win with G-E Saleability!**

Sealed-in cooling unit, muggy weather control, directional airflow, winter heating and dozens of other engineering features.



**Dealers win with G-E Warranty!**

Unmatched 5-year protection gives you replacement cycle, freight paid both ways, and generous labor allowance.



**Dealers win with G-E Financing!**

Two attractive "user" plans that make it easy for prospects to buy. Plus three "dealer" plans so you can stock adequately, expand fast, without tying up working capital.



**Dealers win with G-E Beauty!**

Streamlined, compact models that blend with any decor, add new beauty to stores and offices. Hammered finish resists scratches and smudges.



**Dealers win with G-E Versatility!**

Five basic models—one for every type of commercial or industrial enterprise, big or small. Models available in 3-5-7½-10 and 15 tons.



**Dealers win with G-E Advertising!**

Full-page advertisements all year round in leading national magazines, plus the hardest-hitting direct mail campaign you ever saw. And a barrage of special promotional material, too!

## Get Yours!

See your nearest G-E Distributor or write: C. J. Rigby, General Electric Co., Commercial and Industrial Air Conditioning Department, 5 Lawrence St., Bloomfield, N. J.





## Residential Air Conditioning

### Blower Installation, Service

#### Step-by-Step Procedure for Proper Handling of Vital Component Of Residential Air Conditioning System Outlined

In recent years the chief improvement in the development of the residential warm air heating system has been the use of a blower for the distribution of the heated air. The addition of a blower has made possible the even distribution of heat to all rooms, even to the rooms that are furthest from the furnace and has made the transfer of heated air from the furnace to the rooms take place more quickly.

Like any piece of mechanical equipment, the blower needs to be carefully installed and properly serviced. The contractor will find the following information helpful for both maintenance and installation of the blower.

##### 1. Preparation of blower

Remove all shipping tags, tie-down bolts, wires, etc.

Inspect blower to see that the following items are proper:

Wheel installed for proper

rotation. See diagram.

Reverse if necessary.

Wheel properly centered between two housing sides.

Adjust if necessary by changing location of thrust collars.

See that wheel turns freely.

Resilient washer between thrust collar and bearing.

All bolts, nuts, screws, set screws, etc. are tight.

Read and follow any special instructions attached to blower or furnished with unit.

Attach motor, motor mount, and belt adjuster to blower housing.

Do not tighten motor to mount until pulleys and shafts have been aligned.

Mount blower pulley to blower shaft and tighten set screw to flat of shaft.

Mount blower pulley to blower shaft and tighten set screw to flat of shaft.

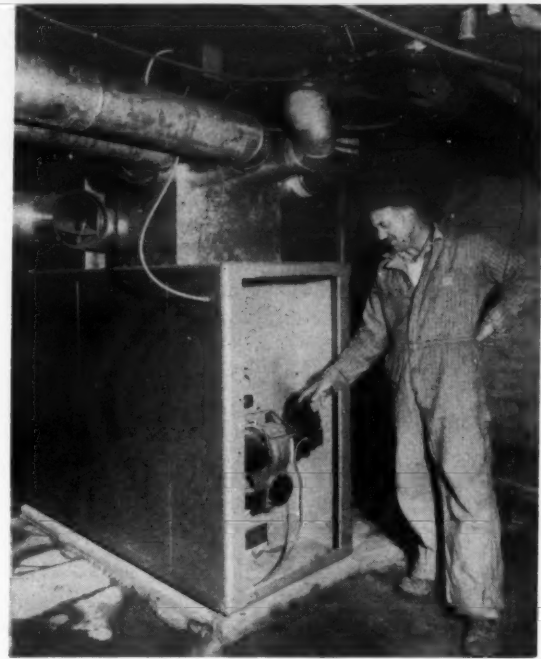
Mount adjustable motor pulley to motor shaft and tighten set

screw to flat of shaft, being sure that there is clearance between pulley and end bell of motor. Set adjustable face of pulley to location recommended by unit manufacturer and tighten set screw on flat.

Install V-belt in grooves of two pulleys.

Align motor pulley and shaft with that of the blower by moving motor on motor mount. If possible, sight down the top of the belt from slightly above it. Make sure the line of the belt is straight and doesn't bend where it leaves the pulley. Use straight edge along side of blower pulley and see that belt is parallel with straight edge. This will also enable you to see if motor shaft and blower shafts are parallel. When properly aligned tighten motor to motor mount.

Belt tension should be adjusted by means of the belt adjuster. The belt should be as loose as possible without slipping in the



PROPER INSTALLATION, maintenance of blower is vital to the successful operation of the year-round residential air conditioning system and the subsequent satisfaction of the customer.

grooves. A rule of thumb is to have the belt tension such that it can be depressed about  $\frac{3}{4}$  in. for each foot of span between inner edges of two pulleys.

Wipe off all dirt, grease, or other foreign material from belt and pulley surfaces. This will reduce wear and improve balance.

##### 2. Installation of Blower (if not packaged unit).

Run motor for a moment to determine if proper rotation. Reverse if necessary by changing wires per instructions on motor connection cover plate.

Install rubber mounts in holes of blower feet if supplied separately.

Install blower in unit with outlet centrally located in opening for blower. Avoid metal to metal contact or support by any element other than mounting feet or flanges.

Wire in accordance with wiring diagram and all codes. Avoid loose contact between armored cable and any portion of blower or unit casing.

Inspect seal around outlet of blower to see that there is no leakage.

Follow oiling instructions on blower label.

##### 3. Adjustment for Proper Operation

Adjust blower speed by means of variable pitch pulley. To adjust the blower speed, the two faces of the motor pulley can be brought closer together or further apart by loosening the set screw and turning the outer face.

To speed up the blower, bring the two faces of the pulley closer together.

To reduce the speed, separate the two faces of the pulley. Be

sure to tighten up the set screw against the flat spot on the hub. The belt should be realigned and readjusted for tension after each change in blower speed.

The realignment will be minor and should be made by changing the position of the motor pulley on the motor shaft.

For forced-air furnaces, unless otherwise specified by the manufacturer, use the following procedure:

Blower speed should be set to obtain a rise of 100° F. through the furnace from the cold air return to the warm air plenum. First open all registers and duct dampers. Then place testing thermometers in return air and warm air plenums. After the temperature of the warm air side has leveled off with fan and burner running, compare reading of the two thermometers.

If the difference is less than 100° F., slow down blower speed. If it is more, increase blower speed. Keep adjusting until a rise of approximately 100° F. is maintained.

Approximate alternate method without thermometer. After burner and blower have been operating long enough so that the return air temperature is approximately 65° F., turn the bonnet control temperature up so that it shuts off the blower. Then turn the bonnet control temperature gauge back slowly until blower starts. If reading is less than 165° F. slow down blower speed. If reading is more than 165° F., increase blower speed.

For air conditioning units, unless otherwise specified by the manufacturer, use a 20° drop in place of the 100° rise as specified above.

(Concluded on next page)

See what adhesives are doing today!



### Putting a damper on hot air

To assure greatest customer satisfaction, designers of Auer Register called for the application of a felt gasket to the metal edge of their product to keep furnace dust and soot from escaping into living rooms. Many methods of fastening were tried, but only one met the requirements of speed, performance and heat resistance.

A 3M rubber-based adhesive solved the problem by giving a quick, sure bond that held immediately, allowing the registers to be packed for shipment as soon as the felt strip

was attached. As a result, today the Auer Register Company of Cleveland, Ohio, can produce 300 to 400 registers per hour. That's one every 10 to 12 seconds!

See what adhesives can do for you... This case is typical of the experience of many who have looked to 3M for the answer to fastening problems. How about you? For free factual booklet giving other money-saving examples, write today to 3M, Dept. 1411, 417 Piquette Ave., Detroit 2, Mich.

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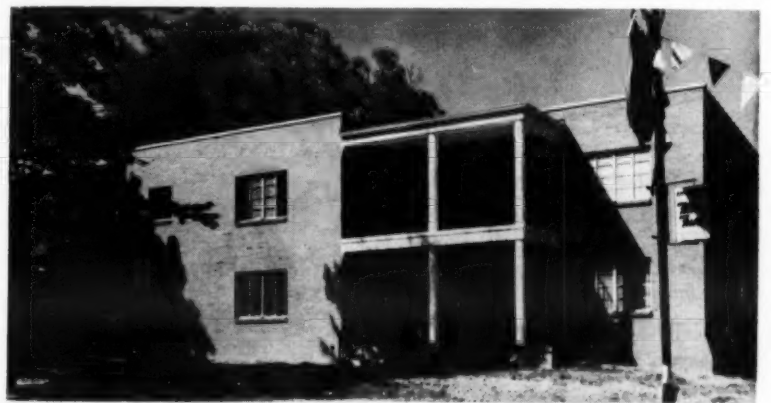


ADHESIVES AND COATINGS DIVISION MINNESOTA MINING AND MANUFACTURING COMPANY

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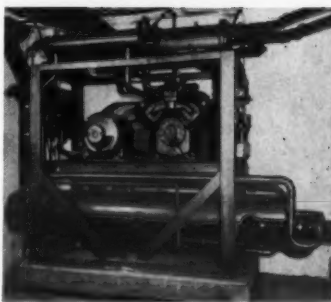
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REFLECTIVE SHEETINGS • "3M" ABRASIVE PAPER AND CLOTH • "3M" ADHESIVES AND COATINGS • "3M" ROOFING GRANULES • "3M" CHEMICALS



#### Schnacke Thermatrol Water Chiller Chosen for Folsom Apartments

Schnacke Thermatrol Chilled Water Unit Model CFD-15-35 is integrated with hot water boiler for summer-winter air conditioning of the Folsom Apartments, Boonville, Indiana. Thermatrol package chillers are available in sizes from 10 to 60 tons, at 35° and 40° in standard models. The "S" line offers specification design to meet any requirement, easily selected to fit the job.



Write for complete  
engineering data.

**SCHNACKE, INC.**

1105 Governor St.  
Evansville, Ind.



## Blower Installation-- RSES and ARI Meeting Program--

(Concluded from preceding page)

The air delivery should be sufficient to keep the coils from frosting and the refrigerant suction pressure from rising.

Allow the blower to operate for five minutes or longer in order to allow the belt to "seat" in the pulley grooves. Observe while in operation the slack side of the belt. If it is moving up and down rapidly and singing, it is too tight. Stop the motor and check the belt for heat.

A hot belt indicates slippage and thus should be tightened.

Inspect filters for cleanliness and see that they and the casing door are in place before setting unit in operation.

### 4. Final Inspection Points.

Have these points been checked?  
Removal of shipping material  
Wheel properly installed  
Wheel properly centered  
Washers all in place  
All bolts, screws, set screws

tight  
Motor shaft and blower shaft

parallel  
Belt aligned  
Belt tension proper  
Rotation proper  
Drive clean  
Resilient mounts in place  
Blower properly positioned  
Armored cable properly anchored  
Outlet sealed  
Speed adjusted  
Filters clean and in place  
Cabinet door closed

5. Explanation of Regular Care to Homeowner

Change filters when dirty.  
Keep cabinet door closed except when inspecting.

Oil in accordance with instructions on blower. If insufficient air, inspect motor pulleys, belt, and blower bearings.

For service, call authorized serviceman.

### 6. Maintenance and Servicing Instructions

In addition to checking adjustments made at initial installation and those suggested for the homeowner, the blower and blower compartment should be cleaned by vacuum cleaner once each season. Also check blower bearings for wear and replace bushings or shaft if necessary.

### 7. Ordering Replacement Parts

Order replacement parts through manufacturers of the furnace or air conditioning unit. Specify model number of furnace or air conditioning unit and the make and model number of blower as shown on instruction plate on blower housing. Indicate the part as described at beginning of this bulletin.

(Concluded from Page 1, Col. 5)

grand ballroom of the Radisson, and a full program of entertainment, sightseeing, and meetings for the visiting ladies.

The Manufacturers' Service Managers' Club of the RSES has scheduled a meeting in connection with the convention. It will be held Saturday, Nov. 20, with Dr. W. O. Walker and Roger Dowling, general service manager of York Corp., as speakers.

Tours and visits to any of the refrigeration equipment manufacturing plants in the Minneapolis-St. Paul area and the Dunwoody Institute are invited. Visits will be confined to Thursday and Friday. Those interested in such visits should write to Archie Robertson, hospitality chairman, 805 Russell Ave. No., Minneapolis 11, Minn.

Following is the program of events and schedule of educational talks:

### THURSDAY, NOV. 18

Westhall Municipal Auditorium

8:00 a.m.—Registration Westhall Municipal Auditorium and Raddison hotel.

9:00 a.m.—RSES Opening Session.

11:00 a.m.—"Sizing and Layout of Refrigerant Lines," Cecil R. Visger, past International RSES president.

12:00 noon—Recess for lunch.

1:00 p.m.—"Application, Installation, and Service for Room Air Conditioners," R. J. Thompson, director of service, The O. A. Sutton Corp.

2:00 p.m.—"Time Controls for Refrigeration Applications," Tom Morrison, Paragon Electric Co.

3:00 to 6:00 p.m.—ARI Exhibits open—Exhibit Hall.

7:00 to 10:00 p.m.—ARI Exhibits open—Exhibit Hall.

### FRIDAY, NOV. 19

Westhall Municipal Auditorium

8:00 a.m.—Registration.

9:00 a.m.—"Information Please."

10:00 a.m.—"Freon-12" and "Freon-22" in Food Store Equipment," John H. Spence, service manager, Hussmann Refrigeration, Inc., and chairman International RSES Educational and Examining Board.

11:00 a.m.—"Application, Installation, and Service of Chilled Water Air Conditioning Systems," W. B. Cooper, manager of Heating & Cooling Systems Dept., American Radiator & Standard Sanitary Corp.

12:00 noon—Recess for luncheon.

1:00 p.m.—"Reasons for Compressor Failures," Clayton Cramer, Service Dept., Carrier Corp.

2:00 p.m.—"Oddities in Refrigeration," Dr. W. O. Walker, Dean, Div. of Research and Industry, University of Miami.

3:00 to 6:00 p.m.—ARI Exhibits open.

7:00 to 10:00 p.m.—ARI Exhibits open.

### SATURDAY, NOV. 20

Westhall Municipal Auditorium

8:00 a.m.—Registration.

9:00 a.m.—"Information Please."

10:00 a.m.—"Installing and Servicing Farm Bulk Milk Cooling Tanks," Leon Buehler, chief refrigeration engineer, Creamery Package Mfg. Co., and president-elect, ASRE.

11:00 a.m.—"Two-Way Radio for Refrigeration Service," talk and demonstration. Bernard Gest, district manager, Radio Corp. of America.

12:00 noon—Luncheon and annual meeting, Manufacturers Service Managers Club, Raddison hotel.

ARI Exhibits open.

6:00 p.m.—ARI Exhibits close.

7:00 p.m.—Annual RSES banquet and entertainment, Grand Ballroom, Raddison hotel.

### SUNDAY, NOV. 21

Gold Room, Raddison Hotel

9:00 a.m.—"Information Please."

10:00 a.m.—Business sessions. Reports of committees. Election of officers.



NEW AIR CONDITIONING unit designed for mobile homes by Carrier Corp. will provide dwellers with a new mode of living. Designed to fit entirely inside the trailer in the living room alongside of the couch or in the bedroom next to or between beds, the unit doubles as a piece of furniture. Installation does not require cutting an opening in the wall or roof or additional structural support, and there are no unsightly protrusions on the outside.

## Trailer Cooler--

(Concluded from Page 1, Col. 2)

order to overcome past objections to air conditioning unit design.

"One important requirement was that no equipment should be mounted outside the mobile home. The Carrier unit fits entirely inside and requires no openings in the walls or roof. It serves as an end table, as well as an air conditioner."

The unit is a compact ¾-hp. floor-type conditioner which fits into the living room or bedroom of the mobile home. It can be placed

alongside of the living room couch in the area occupied by an end table in the majority of mobile homes, according to Holton. Other suitable locations include the space between or alongside beds.

Air for refrigeration condensing is drawn through an opening in the floor "thus assuring high performance even in midsummer days when the intense radiant heat of the sun normally reduces the effectiveness of roof-mounted equipment," it was stated.

Prior to marketing the new mobile home air conditioner, an extensive testing program was conducted in various areas.

## New York's First "Package" Air Conditioned Office Building Under Construction...



### 10 USAIRCO DRK's to cool nine-story structure in Long Island City!

The first new multi-story rental office building ever to be fully air conditioned by self-contained central station equipment is now under construction at Queens Plaza, Long Island City, New York.

The building has a 150-foot front, a depth of 85 feet and will contain street floor store space, eight rental office floors and a 1,000 square foot penthouse.

As further proof that factory assembled air conditioning plants are increasing in application, the new nine-story and penthouse building will utilize nine 30-ton USAIRCO dual circuit "Refrigerated Kooler-air" units (DRK) and one 15-ton DRK. Total cooling capacity is 285 tons.

A 30-ton "package" will be located on each of the nine floors, while the 15-ton will serve the penthouse and one section of the ninth floor. Each unit occupies an enclosed equipment room in the central service core of the

structure. All the elements of a built-up system—blower section, compressor section and evaporative condenser—are contained in each unit. By using USAIRCO's packaged air conditioning system, no cooling tower is needed on the roof, freeing the penthouse area for rental income. Extensive condenser water piping and refrigerating piping are also unnecessary.

The ten DRK's—with two compressors and two separate refrigeration circuits—were specified for this particular installation because load variations will require definite capacity control. When outside temperature drops, or when fewer people occupy a floor, just one compressor functions. When temperatures are higher and tenancy increased, full capacity is required and both compressors automatically go into operation. Separate refrigeration circuits permit continued de-

humidification when the unit operates at reduced capacity.

Fresh air supply and exhaust air will be handled by two shafts running the entire height of the building. Winter heating will be provided by a baseboard system, supplemented by warm air circulated through the air conditioning system.

Under the owner's plan to lease full floors to individual tenants, metering of the equipment will be possible, because each floor's air conditioning system operates independently. Each tenant will control his own equipment, which will be automatically regulated by wall thermostats.

Scheduled for April 1 completion, builder is Depot Construction Corp.; owner, Queens Plaza-Crescent, Inc., both of New York. Wechsler & Schimenti are the architects. J. W. Hubert Corp. is the air conditioning and heating contractor.

For complete details write Dept. ACEN-114

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CONSTANT SPEED

Lausteel Pulleys



Lausteel constant speed pulleys are suitable for use with both "A" and "O" section belts. Available in diameters of 6" to 10" inclusive. These pulleys give better performance with less friction... for longer belt life.

Write for Catalog Page 707-14

THE LAU BLOWER COMPANY  
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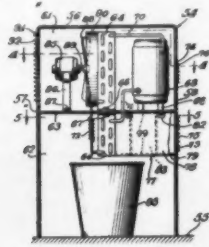
World's Largest Manufacturers of Air Conditioning Blowers



# PATENTS

Week of July 6  
(Continued)

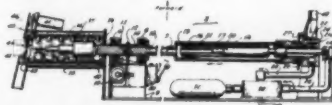
2,682,758. DEHUMIDIFYING APPARATUS. Arvel R. Harris, Evansville, Ind., assignor to International Harvester Co.



1. In apparatus for dehumidifying the air within an enclosure, a casing, a horizontally disposed wall mounted within said casing dividing said casing into upper and lower compartments, a refrigerant condenser and a refrigerant evaporator having inlet and outlet sides for the passage of air therethrough, said refrigerant evaporator mounted to said wall within said lower compartment, said casing having an inlet opening formed through one vertical wall thereof and position adjacent said lower compartment, said casing having an outlet opening formed through another vertical wall thereof adjacent said upper compartment, an air-to-air heat exchanger having first and second ducts therethrough in thermal contact, said air-to-air heat exchanger mounted to said wall within said lower compartment, said first duct of said air-to-air heat exchanger connected to said inlet opening and said inlet side of said evaporator, said second duct connected between said upper and lower compartments through an opening provided in said wall, said refrigerant condenser mounted to said wall within and substantially across said upper compartment between said outlet opening and said second duct of said air-to-air heat exchanger, a motor-compressor unit for the operation of said refrigerant evaporator and said refrigerant condenser mounted to said wall within said upper compartment substantially over a portion of said second duct, fan means mounted to said wall within said upper compartment between said outlet opening

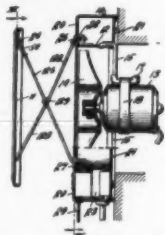
and said outlet side of said refrigerant condenser, said fan means operable to draw air from said enclosure into and through said inlet opening, into and through said first duct of said air-to-air heat exchanger, into said inlet side of said refrigerant evaporator, through said refrigerant evaporator, from the outlet side of said refrigerant evaporator through said lower compartment, into and through said second duct of said air-to-air heat exchanger, into said upper compartment and over the surfaces of said motor-compressor unit, into said inlet side of said condenser, through said refrigerant condenser, from the outlet side of said refrigerant condenser through the remainder of said upper compartment and through and out of said outlet opening, whereby said air is precooled by the transfer of heat to said first duct, whereby the air is cooled to the dew point temperature thereof and water is condensed upon the surfaces of said evaporator, whereby the air is then heated as it passes through said second duct of said air-to-air heat exchanger, whereby said motor-compressor unit then transfers heat to said air and whereby said air is further heated by passage through said refrigerant condenser and projected into said enclosure, when said motor-compressor unit is operating.

2,682,771. ICE COLLECTING MECHANISM. Richard L. Parker, Pacific Palisades, Calif., assignor to Northrop Aircraft, Inc., Hawthorne, Calif.



1. An ice collecting mechanism comprising a rotatable and reciprocating shaft adapted at one end to carry a collector probe for exposure to icing atmosphere, the other end of said shaft being hollow for a considerable length to form a pressure cylinder, a stationary hollow piston rod entering said cylinder from said shaft other end and having an apertured piston secured around the inner end of said piston rod, closed cylinder end means attached to said hollow shaft and surrounding said piston rod, a fluid connection to the interior of said piston rod and another fluid connection to the inside of said cylinder around said piston rod and through said cylinder end means, a stationary refrigerant compartment coaxial with said shaft and positioned to surround said collector probe when said shaft is moved to a retracted position by pressure in one of said fluid connections, means for opening said refrigerant compartment at the outer end thereof to allow said collector probe to be extended to the outside when said shaft is moved outwardly by pressure in the other fluid connection, means for closing and sealing said compartment when said collector probe is positioned therein, means for rotating said shaft to allow formation of an even ice coating on said collector probe when extended into said atmosphere, and means for cooling said refrigerant compartment below freezing temperature to preserve said ice after retraction of said shaft.

2,682,826. ELECTRICALLY DRIVEN FAN. Karl John Wahlborg, Stockholm, Sweden, assignor, by mesne assignments, to Aktiebolaget B. A. Hjorth & Co., Stockholm, Sweden.



1. In a ventilating unit for circulating air through an existing air duct in a building wall of an enclosure having spaced apart inner and outer surfaces, such unit comprising a box-like casing including spaced apart first and second wall members constituting front and rear walls, respectively, each of the wall members being formed with an opening, an air passageway forming member extending between the first and second wall members and terminating at the openings therein, another member which is spaced from the passageway forming member and connects the first and second wall members to form a substantially closed outer chamber exteriorly of the passageway, an electric motor, a fan carried by



## PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing officer under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date.

### DEPARTMENT OF DEFENSE

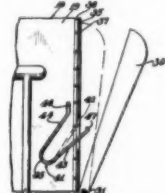
Description	Quantity	Invitation No.	Opening Date
General Stores Supply Office, 700 Robbins Ave., Philadelphia 11, Pennsylvania			
Valve Temperature regulating for Ventilation Heaters Furnished with one set of Poppets and Seat Rings Mt. Spec. MIL-V-3155 (Ships) Amend I, Buships Dwg. 3802 860327.	578 ea.	(155-477-55-B)	29 Nov 54
Navy Purchasing Office, 3rd Ave. and 29th St., Brooklyn 32, New York			
Refrigerator Electric	139 ea.	(IFB-N140-154-55B)	22 Nov 54
Contracting Office, Clovis Air Force Base, Clovis, New Mexico			
Dismantle and Move Existing Evaporative Cooling systems from 220 Bldgs. and Reinstalling in 20 Different Bldgs.	Job	(29-605-55-12B)	22 Nov 54

### GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Business Service Center, General Services Administration, Region IV, 50 Seventh St., N.E. Atlanta, Georgia			
Air conditioning repairs, U. S. Post Office and Court House, Jacksonville, Florida	Job	CR4-904	1 Dec 54

the motor and driven by the latter, the fan and motor together taking up a definite overall distance in the direction of the axes of such parts, damper means for the passageway, means for mounting the damper means on the casing for movement thereon between an open position and a shut position at the first wall member or front wall of the casing, electric switching means for controlling the motor, means for adjusting the position of the damper means, the electric switching means and damper adjusting means including parts disposed in the closed outer chamber of the casing, means for mounting the casing on the building wall with the second wall member or rear wall thereof at the inner surface of the building wall with the opening in such second wall member communicating with the duct, means for carrying the motor on the casing with the fan disposed in the air passageway between the first and second wall members and the motor projecting exteriorly of the casing from the second wall member or rear wall thereof so that the duct will constitute a housing for the motor when the casing is mounted at the inner surface of the building wall, the casing when mounted on the building wall projecting from the inner surface thereof into the enclosure a distance which is less than the overall axial distance taken up by the fan and motor, and the damper means in its shut position closing the opening in the first wall member or front wall of the casing.

2,682,856. DEFROST INDICATOR. Edward M. Gaul, Evansville, Ind., assignor to International Harvester Co.



1. A refrigerator comprising an evaporator, a U-shaped resilient member having a first leg and a second leg connected by a curved portion, the end of said first leg attached to said evaporator, a door pivotally mounted which contacts said second leg and deflects said resilient member when in closed position, said resilient member returning to its free position when the door is in open position, said resilient member arranged so that it will be embedded in frost and held in its deflected position when the evaporator needs defrosting.

2,682,858. WOOD MEMBRANE HYGROMETER. James W. Case, Fairfax, Va. Application Dec. 13, 1951, Serial No. 261,570. 7 Claims. (Cl. 116-114.)



1. In a hygrometer, a moisture sensitive element consisting of a tubular membrane, a casing in which said element is contained, mounting means in the casing for one end of the element the other end of the element being free to move, a spring-loaded signal swingably carried by the casing, and a trigger mounted between the signal and the casing, said trigger holding the signal in a safety-indicating position and having a portion confronting the free end of said element.

2,682,887. LIQUID LEVEL CONTROL MEANS FOR HUMIDIFIERS. Delmond L. Getz, Springfield, Ohio, assignor to The Steel Products Engineering Co., Springfield, Ohio, a corporation of Ohio. Original application Sept. 30, 1947, Serial No. 778,968. Divided and this application July 17, 1950, Serial No. 174,249.

1. Liquid level control means for use in a humidifier of the character described comprising a chamber for liquid, a valve body mounted on said chamber, means forming an inlet for liquid to said valve body, means forming an outlet from said valve body to said chamber, a pair of valves in said body for controlling communication from said inlet to said outlet, said valves including valve orifices arranged in series in the line of flow from said inlet to said outlet, diaphragm

# Government Contracts

## CONTRACTS AWARDED THROUGH NOV. 8

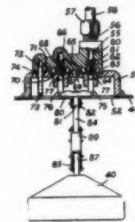
Yards and Docks Supply Office, Port Hueneme, California  
Refrigerators—229, \$34,915.—Frigidaire Sales Corp., 2315 Cecil Ave., Baltimore 18, Md.  
General Stores Supply Office, 700 Robbins Ave., Philadelphia 11, Pennsylvania  
Cooler: complete self-contained, electric (Inv. No. (3)-230-55).—340 ea., \$39,477.—Sunroc Refrigeration Co., Glen Riddle, Penna.  
Fans: portable (In. No. (3) 231-55).—250 ea., \$61,490.—Stone Heating and Ventilating Co., 3245 Que St., N.W., Washington, D. C.  
General Services Administration Business Service Center, Region 2, 250 Hudson St., New York 13, New York  
Converting heating system to oil, P.O. & chae (New), Wilmington, Del.—Job, \$14,697.—Kane & O'Connor, 24 East 2nd St., Ronnemede, New Jersey.

## SYNOPSIS OF PROPOSED SALES OF SURPLUS PERSONAL PROPERTY

The following is a list of the principal sales of surplus personal property of all executive agencies of the Government in which the estimated acquisition cost of property to be sold at one time at one location is \$25,000 (on military property \$250,000) or more, and when the property is located in Continental United States, Hawaii, Alaska, Puerto Rico or the Virgin Islands.

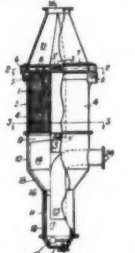
Name and Address of Selling Office, Description of Article, Acquisition Cost, Bid Number, Opening Date, Location of Property, etc.  
U. S. Naval Supply Depot, Scotia 2, New York, F. H. Arnold, Jr., LCDB, Disposal Officer, Phone Schenectady 7-2271.  
Refrigerators, Valves, Switchboards, Transmitter Indicators, Log Indicators, Constant Frequency Controls, Fans, Circuit Breakers, Boiler Tubes, Cooling Coils, Boilers, De-aerating Tanks, Nails, Acid Cleaning Units, Dark Room Cabinets, Projector, Surgical Lights, Signal Lights, Valves.—Total Estimated Acquisition Cost \$428,044.—Invitation No. B-24-55.—Bid Opening 18 Nov 1954.—Sealed Bid, Address Above.

means mounted for movement in said valve body into closing relation with said respective orifices, means movable in response to change in the level of liquid in said chamber for moving said diaphragm



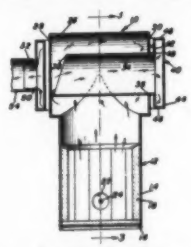
means into closing relation with said orifice, and one of said valve orifices being larger than the other to establish greater pressure on said diaphragm means at said one valve than at the other said valve to cause said other valve to close when said liquid reaches a predetermined level and to cause said one valve to close only in response to increased pressure on said movable means resulting from rise of said liquid above said predetermined level.

2,683,023. HEAT EXCHANGER. Per Helge Natanael Ulander, London, England, assignor to James Howden & Co. Ltd., Glasgow, Scotland.



1. A heat exchanger of the regenerative type for effecting transfer of heat from one fluid to another fluid to lower temperature in which one of the fluids is a liquid and the other fluid is a gas, comprising a casing, a continuously rotatable cylindrical rotor mounted for rotation on an upright axis in said casing, a body of heat-transferring material mounted in said rotatable cylindrical rotor, said body of material being carried by said rotor and rotatable therewith, a liquid distributing device mounted on the top of the casing directly above and arranged in axial alignment with the rotatable cylindrical rotor, said liquid distributing device including a plurality of angularly and regularly-spaced liquid inlet sectors extending radially over the body of material in the rotor and alternating with a plurality of sectoral spaces for the admission of gas to the upper end of the body of heat-transferring material in the rotor, a duct for conveying gas to all of said sectoral spaces in the liquid distributing device for the parallel flow of gas streams into and downwardly through the body of heat-transferring material in the cylindrical rotor, and means for conducting liquid to each of said liquid inlet sectors for distribution by said liquid inlet sectors for parallel flow downwardly through the body of material in said rotatable cylindrical rotor.

2,683,024. HEAT EXCHANGER FOR HOT AIR FURNACES. Wendell Butler and Sheldon P. Pride, Rupert, Idaho.



A heat exchanger for furnaces comprising an elongated horizontally disposed cylindrical casing having first and second end walls, a vertically disposed housing communicating with the bottom of said casing intermediate the ends thereof and adapted to deliver combustion products

thereto, an elongated tubular baffle tube extending axially of said casing, one end of said tube being disposed in close proximity to said first end wall, the other end of said tube extending through said second end wall, a continuous, horizontally extending combustion products duct of rectangular configuration spacedly surrounding said casing, said other end of said baffle tube opening into said combustion products duct, and an outlet conduit communicating with said duct adjacent said first end wall of said casing, said one end of said tube being vertically inclined away from said first end wall to provide an upwardly opening entrance for combustion products from said casing.

2,683,025. HEAT TRANSFER APPARATUS. Victor E. Matulatis, Detroit, Mich.



A heat transfer core comprising a casing consisting of a pair of elongated sheet metal members having straight elongated side edges, straight elongated end edges, and straight inclined corner edges connecting the ends of said side edges with the ends of said end edges, said members having continuous peripheral flanges extending toward each other and spacing the sides of said casing apart, the peripheral flanges at the intersection of said end edges and said inclined edges providing internal supports, thin elongated heat transfer fin structure of overall rectangular block shape extending from end to end of said casing and having its end corners engaged and located by said internal supports, the sides of said fin structure engaging the inner surfaces of said members, and the edges of said structure occupying planes connecting corresponding end edges of said members leaving header spaces beyond opposite edges of said fin structure, the portions of said members located outwardly toward the side edges from lines joining the corresponding end edges thereof being shaped outwardly beyond the intermediate portions thereof to form transversely widened header spaces, one of said members having inlet and outlet openings formed therein inwardly from its edges and communicating with said header spaces.

2,683,113. METHOD OF FINISHING ICE TRAYS. Stanley R. Prance and Harold J. Reindl, Dayton, Ohio, assignors to General Motors Corp., Detroit, Mich.



1. In a method for making waxed and colored aluminum ice trays, the steps comprising: cleaning the surfaces of an aluminum ice tray; brightening the surfaces of the tray by immersion in a chemical brightening solution; anodizing the brightened surfaces; dyeing the anodized surfaces by immersing the tray in a hot solution of a soluble organic dye and simultaneously sealing the dye within the pores of the anodized surfaces; continuously protecting the surfaces of the tray against oxidation by the maintenance of a protective aqueous coating thereover throughout the time required to perform said steps and to transfer the tray from one step to the next subsequent step; drying the tray; immediately coating the dried surfaces of the tray by immersing the tray and sealed tray in a hot wax-like material for providing a wax-like covering all over the surfaces of said tray; and then removing the surfaces of the wax-like material and cooling the same; all of said steps being sequentially performed without delay therebetween and all of said steps except the waxing step being separated by rinsing steps.

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## Refrigeration Problems and their solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

### Ammonia As Refrigerant

Most of our readers are primarily interested in refrigerating equipment using one of the so-called "low-pressure" refrigerants. This term originated many years ago when nearly all of the small machines used sulphur dioxide, which operated at very much lower pressures than ammonia. Then came methyl chloride, whose operating pressures were higher than those of sulphur dioxide, but still considerably below the operating pressures of ammonia.

Some years later, dichlorodifluoromethane ("Freon-12") and now "Genetron-12" was introduced with higher pressures than methyl chloride and approaching those of ammonia. Now the "low pressure" industry is manufacturing a great deal of equipment using monochlorodifluoromethane ("Freon-22" and "Genetron-141") which operates at pressures even above those of ammonia.

So we are going to have to quit using the term "low pressure" as applying to our industry. Nor does the term "electric refrigeration" very accurately apply, for most ammonia compressors these days are driven by electric motors.

#### AMMONIA AND CO<sub>2</sub> EARLY REFRIGERANTS

Ammonia was one of the very earliest refrigerants used in mechanical refrigeration equipment, either of the compression or absorption type. Carbon dioxide was quite popular, especially in installations on shipboard, in hospitals, and in other places where it would be very hazardous to use a refrigerant such as ammonia or sulphur dioxide, both of which are highly toxic.

Either of these two refrigerants "choke" a person breathing them and cause extreme distress even before they are breathed long enough or in great enough quantities to be very dangerous. Sometimes the hysteria and panic effect of ammonia or SO<sub>2</sub>, if a person is confined or helpless, is almost as bad as the toxicity of the refrigerant.

Such installations—hospitals, institutions, hotels, theaters, and similar application previously using CO<sub>2</sub>, were among the first of the larger size plants to adopt the non-toxic, odorless "Freons" when they first came on the market.

But ammonia, being available, very efficient, effective, and moreover being quite cheap, very naturally became the refrigerant that was used in the great majority of installations of almost all types and sizes, except the very small systems of a ton or less.

For such applications as ice-making and cold storage plants, and large industrial processing systems, ammonia is today the popular refrigerant, and is used almost to the exclusion of any other refrigerant.

An "old ammonia man" is very loyal to ammonia. He still looks with a good deal of suspicion and dislike on these new refrigerants. He doesn't even mind the odor; he is used to it. Besides, an ammonia odor tells him that there is a leak, and he busies himself to find it.

#### LEAK TESTING EASY

Moreover, leak testing of ammonia systems is easy and positive. Just burn a sulphur stick or sulphur candle and a white "smoke" pin-points the location of the leak. Litmus paper or ordinary paper soaked in phenolphthalein solution or one of the proprietary preparations, can also be used. They can be wrapped around suspected joints or dipped into condenser water or chilled water, and if the condenser or chiller is leaking ammonia into the water, the paper changes color.

#### LOW COST OF AMMONIA

Compared to most of the other refrigerants, the cost of ammonia is very low, about 20 to 25 cents per pound. This is an important item in a large system having a refrigerant charge of several thousand pounds.

Along this same line, the net refrigerating effect of ammonia, either per pound or per cubic inch, is extremely high, 474.4 B.t.u. per pound, at standard ton conditions. This is over nine times that of "Freon-12" and almost seven times that of "Freon-22."

of feet of liquid lines, this results in very important savings.

#### SIZES OF SUCTION LINES AND COMPRESSOR

In vapor form, ammonia is a very "light" gas, as compared to most of the other commonly used refrigerants. If about as many pounds of ammonia had to be circulated to produce a ton of refrigeration as these other refrigerants, the suction lines for ammonia would have to be very large, resulting in high piping costs.

However, since so little ammonia by weight must be circulated per ton, the suction line sizes are very moderate and compare favorably with the other popular refrigerants. For a given capacity, and at standard ton conditions of 5° F. evaporator and 86° F. condensing, the suction line size for ammonia is slightly less than for "Freon-22," and a considerably less than for "Freon-12" or methyl chloride.

The same applies to the displacement of the compressor. An ammonia compressor has a slightly less displacement than a "Freon-22" compressor, and a good deal less (about 23.6%) than for "Freon-12," based on standard ton conditions.

So, for the sizes and consequently the costs of the liquid and suction lines and the displacement of the compressor, ammonia compares very favorably with the more modern refrigerants that are most commonly used.

#### HORSEPOWER PER TON

For most applications, a refrigerant is not selected because it is inherently more "efficient" than others, for most of the commonly used refrigerants are not much different in that respect.

Nevertheless, ammonia compares very favorably with the other refrigerants. Its "horsepower per ton," based on standard ton conditions, is slightly lower than that of "Freon-12" (or "Genetron-12"), "Freon-22" (or "Genetron-141"), Carrene-7, and "Freon-114," but is slightly higher than that of "Freon-11," "Freon-21," "Freon-113," methyl chloride, and sulphur dioxide.

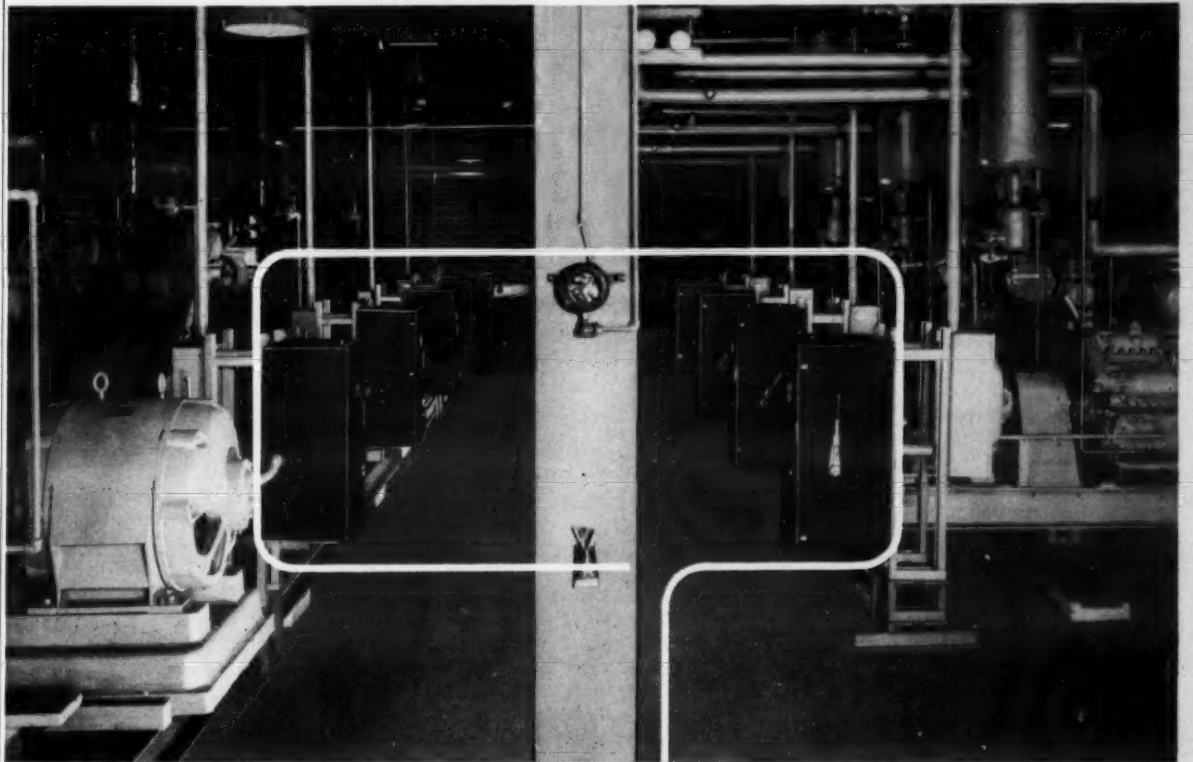
(To Be Continued)

#### Wholesalers in Va., Texas Named as Copeland Outlets

SIDNEY, Ohio—Copeland Refrigeration Corp. has announced addition of three new complete stocking wholesale outlets.

Two additional branches of Noland Co., Inc., have been appointed as authorized Copeland distributors. These are Noland's branches in Newport News, Va., and Norfolk, Va. The concern's branches in Raleigh, N. C.; Wilson, N. C.; Chattanooga, Tenn.; Columbia, S. C.; and Spartanburg, S. C., also are Copeland wholesalers.

Third outlet added to the Copeland wholesaler list is Climate Supply Co., Dallas, Texas.



Ten York compressors at Rieck-McJunkin Dairy Co., Pittsburgh, Pa., operated by Allen-Bradley 75 and 125 hp Bulletin 646 manual autotransformer starters

## York Compressors operated by...

When you buy a manually operated autotransformer starter, don't overlook these three big advantages of Allen-Bradley Bulletin 646 Starters:

(1) An adjustable time-delay switchover unit with gong to signal end of starting period after which the starting lever can be put into run position.

(2) Bulletin 646 Starters are listed with air break contacts up to 75 hp, 220 v; 150 hp, 440-550 v. They can be furnished with oil-immersed contacts, if desired. However, oil is messy and should be used only where local conditions require it.

(3) Allen-Bradley double break, silver alloy contacts, used with air break Bulletin 646 Starters, require no cleaning, filing, or dressing. This lengthens contact life.

Starting voltage taps are clearly labeled and easily adjusted to suit starting conditions. Time delay under-voltage release is optional.

On your next job requiring a manual, reduced voltage starter, specify "Allen-Bradley Bulletin 646."

Allen-Bradley Co.  
1313 S. First St., Milwaukee 4, Wis.  
In Canada  
Allen-Bradley Canada Limited, Galt, Ont.



Air break type

Allen-Bradley Solenoid Motor Controls  
for Heating, Ventilating, Air Conditioning, and Refrigeration Industries

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RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

#### POSITIONS WANTED

REFRIGERATION, AIR conditioning engineer—with 15 years' experience in design of air conditioning, commercial, refrigerating equipment, transport refrigerating units. Experienced in design, testing of hermetic and open type refrigerating units. Some experience compressor and control design. Will relocate. Will travel. Graduate engineer. BOX A5093, Air Conditioning & Refrigeration News.

#### POSITIONS AVAILABLE

ATTENTION SALESMEN—Complete line of air conditioners. Now available for established salesmen to sell through distributors and appointed franchised dealers. Few areas still open for proper coverage. Complete, newly designed 1955 line includes models 3 ton through 20 ton with choice of semi-hermetic or open-type refrigeration compressors. Large potentials for go-getters. Advise area covered, lines now handling. Air-mail complete qualifications to C. M. Hatcher, Sales Manager, AMERICAN COILS CO., 360 Thomas Street, Newark, New Jersey.

WANTED—MANUFACTURERS' representatives now contacting commercial refrigeration dealers in the following territories: Chicago, Atlanta, Detroit & Florida. Must be able to sell quality equipment: fast-growing line of special commercial refrigeration items of interest to established refrigeration dealers. Replies confidential. Write: Paul R. Stewart, C. SCHMIDT COMPANY, 1712 John Street, Cincinnati 14, Ohio.

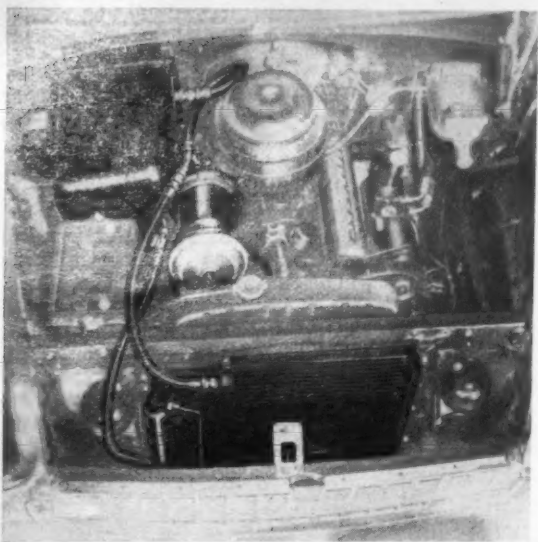
WANTED—MANUFACTURER'S representative. National manufacturer of complete line of air conditioning equipment, including room air conditioners, residential and commercial units in both water and air cooled, has several territories open on commission. Give experience, lines carried and type of accounts now being called on. BOX A5087, Air Conditioning & Refrigeration News.

RAPIDLY GROWING concern wants additional representation in all localities. Many years experience in the manufacture of fans, blowers and ventilating equipment. Both sales representatives for sales to manufacturers and distributors and agents for complete units. Currently producing for some of the largest concerns in this field. BOX A5092, Air Conditioning & Refrigeration News.

#### EQUIPMENT FOR SALE

FOR SALE: Brand new popular brand ¾ HP compressor with flywheel and service valves, \$52.50—Model F 1 HP \$62.50. Price includes free transportation to destination. Send for parts catalog listing other money-saving values. WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.





NEW FRIGIDAIRE combination cooling and heating system for 1955 Chevrolet V8 models is shown here installed in position. The complete unit is housed under the motor hood and weighs just slightly more than 100 lbs. Even when the car motor is idling the system is said to have plenty of cooling capacity.

## Chevrolet Air Conditioning System--

(Concluded from Page 1, Col. 2)

coil is housed in a compact steel casing that is dropped in snugly against an adapter on the front of the dash panel. Changeover from cooling to heating is accomplished by merely flipping controls on the dash.

"The compressor is a vibration-free five-cylinder axial unit having a special clutch that is actuated by a thermostat inside the car which controls the cycling of the compressor. This assures uniform cooling temperatures for passengers' comfort. It produces ample cooling capacity even when the car motor is idling.

"The condenser, which brings the refrigerant back to a liquid state by removing heat, is mounted just ahead of the car radiator."

The air conditioning system for the 1955 Chevrolet is located underneath the hood and instrument panel, leaving the luggage compartment clear.

Nozzles to expel cool air into the passenger compartment are at ends of the instrument panel, it is pointed out.

Frigidaire also makes an axial compressor for all other General Motors air conditioned cars and the entire cooling system for Buick and Cadillac.

turer should continually do the lion's share."

He outlined what the manufacturer can do in the way of providing good product, sales supervision, sales training, advertising, service, and financing. At the same time, he pointed out what the distributor can do to help. An important aid, he indicated, is to be more receptive of the assistance that the manufacturer does offer.

George F. Wiedemer, newly-elected president of NCRSA, outlined various ways dealers can finance sales, but declared the best way was through meters. He also advised dealers to handle their own paper whenever possible, pointing out that the interest earned "is actually better than the net earned from operations. However, a sufficiently large volume of business is necessary in order to do this profitably."

Herbert W. Foedisch of the Providence Trust Co., Philadelphia, discussed the advantages and disadvantages of leasing refrigeration equipment rather than selling it outright. He saw no general advantage to it except in the case of some large supermarket chains or similar concerns that have large amounts of capital they can use to better advantage in expanding their operations rather than tying it up in refrigeration equipment.

He pointed out that this was just another method of long term financing, which he and other speakers on the program agreed was not good for the industry.

M. M. Zimmerman, editor and

publisher of *Super Market Merchandising*, outlined new trends in supermarket layout and merchandising and advised dealers that supermarket plans for next year would indicate a growing volume of business for them.

New officers elected for NCRSA are: George Wiedemer of Rochester, N. Y., president; S. G. Taylor of Des Moines, Iowa, first vice president; S. W. Davis, Jr. of Greensboro, N. C., second vice president; and Harry A. Hattenbach of Cleveland, treasurer.

New directors to the nine-man board are Joseph Lipack, Long Island City, N. Y.; F. W. Owen, Lorain, Ohio; and George Schoenbacker of Chicago.

Miss Lawton said the board of directors has authorized surveys among members during the coming year on advertising and direct mail, reports required of salesmen and what they do with them, handling and charges on past due accounts, handling of service, and methods of presenting quotations.

She also announced that membership in the association has climbed to 232.

Association officials said they were pleased with the turnout at this meeting because it is the first that NCRSA has held without an additional attraction to lure distributors to the meeting site.

Next year's meeting will be held Nov. 28 and 29 in the Traymore hotel, Atlantic City. It will coincide with the 9th Exposition of the Air-Conditioning and Refrigeration Industry.



CLIME-MATIC air conditioner.

## Clime-Matic--

(Concluded from Page 1, Col. 3)

and specialized needs of various types of buildings in the United States and abroad, Patterson further said.

In the new Clime-Matic line there are models suitable for floor, wall, and ceiling installation. The units are encased in modern cabinets and are equipped with heavy duty, full capacity Copelametic semi-hermetic motor compressors.

There are also models with self-contained gasoline or kerosene power units for use in cases where no external power source is available.

The Clime-Matic units may be fitted easily with a heating coil which provides for warm air circulation in cold weather.

## NCRSA New York Convention--

(Concluded from Page 1, Col. 4)

management. He should permit no deviation."

Distributor Frank Stella of Detroit also listed as one of the first obligations of a general manager loyalty to his own firm. The general manager must concentrate his efforts on carrying out the firm's goals and not divide his interests between two or more fields.

Approximately 175 distributors and manufacturers from all over the country came to the convention to hear how to integrate the distribution team for profitable operation.

R. J. Wischusen, retiring president of NCRSA, told them he believed that a distributor in any area of the country could achieve this objective only if he offers:

1. Complete drafting service
2. Sound financial handling
3. Installation and service by his own department
4. A well trained and supervised group of salesmen armed with the facts.

"With an organization equipped to do the complete job in a given territory he can then look for and receive the full cooperation of a manufacturer," Wischusen said.

"If we follow this complete job approach, there isn't a manufacturer that can compete with us because after all the cards have been turned face up and the chips are counted, the price preferential they offer is outweighed by the complete assistance job a distributor can offer."

He urged that any distributor

not already doing a complete job "analyze your organization, add what is necessary to handle the over-all problem on an efficient basis, and at the same time keep your price on a competitive level."

Later in the program, Leon Prince, a partner in Bally Case & Cooler Co., argued, on the other hand, that the smaller commercial refrigeration distributor who finds himself unable to do business with large supermarkets can build a profitable business by selling individual cases to the "ma and pa" stores.

"If your salesmen do the job they are capable of on these people," he said, "you can revive them and provide yourself with a market in the future."

By selling them one or two pieces of equipment, the salesman can revitalize the store so that they can do a little more business and prosper. But, he warned, don't set your sights too high. Don't try to make a big deal out of a small deal or you may lose the whole thing.

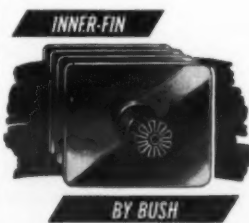
Hill, in addition to his remarks on loyalty, urged that more teamwork between manufacturer and distributor would pay off if they could apply a little more understanding to their mutual problems.

"It appears to me the manufacturer has more control over the situation and can give more assistance because he has a larger organization. He is in a much better position to help the distributor than vice-versa. Therefore, in my opinion, the manufac-

Inner-Fin coils . . . a BUSH exclusive . . . represent the first really new development in heat transfer engineering since finned coil replaced bare pipe.

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Perhaps Inner-Fin can be utilized to make your heat transfer products better. Drop a line. We'll be glad to talk it over.



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## SALES ENGINEERS WANTED

Old, well-established, highly-respected company, expanding its product and market coverage, requires sales engineers. Requirements include refrigeration engineering background, experience in application of small and medium sized refrigeration units, and sales experience. Preferred age range, 28 to 45 years. Salary open, commensurate with experience. Vigorous growth program provides excellent future opportunities. Location, Middle West. Traveling in territory from home office base. Our employees know of this ad. All replies confidential. Send complete details, including educational and business background to

BOX A5094, Air Conditioning & Refrigeration News.